JUNIOR ARITHMETIC

GRADE FOUR

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LEARNING TO DIVIDE

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janet Lymburner

JUNIOR ARITHMETIC

GRADE FOUR

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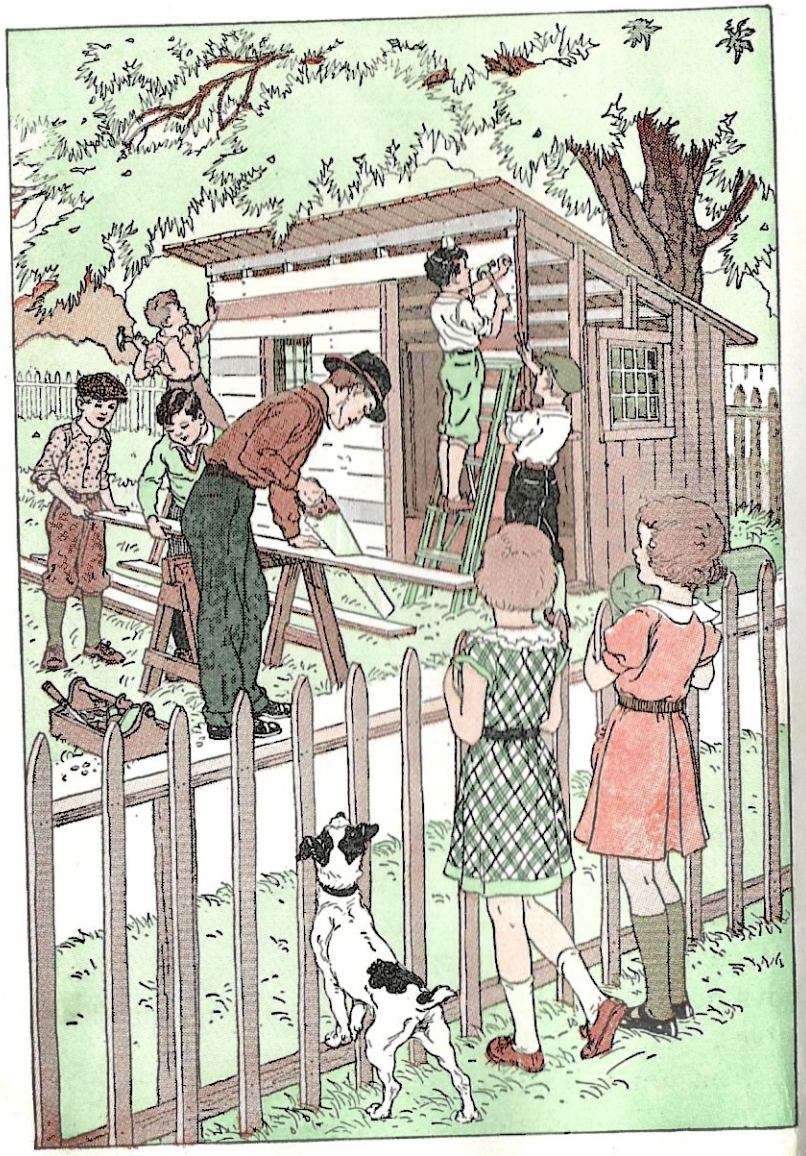
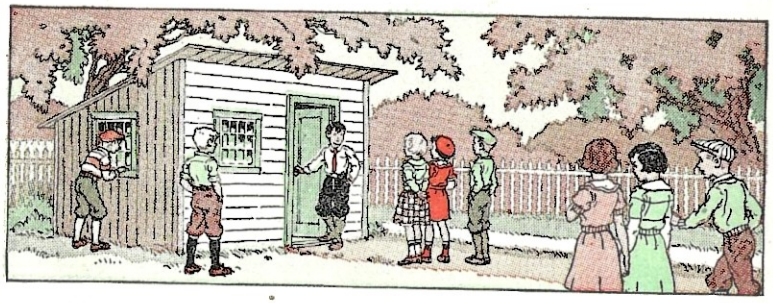


CHAPTER 1

LEARNING TO DIVIDE



Building a Hut

During the summer, Bobby and his friends built a hut in the field back of Bobby's home near the lake. Tom's father helped them to build it.

While they were building the hut, the boys had to work many problems.

"Bobby, on this job we use something else about as often as boards, nails, or tools," said Tom.

"What is that?" said Bobby.

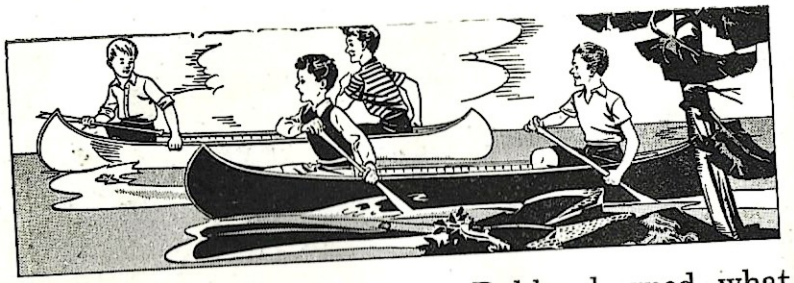
"Arithmetic!" said Tom.

Tom was right. The boys had to use arithmetic to help them to know what to do. They had to measure, add, subtract, and multiply, every day.

One day Bill spent 15 cents for nails. The 5 boys decided to share the cost equally among themselves. How much should each boy pay?

"You must divide to answer that," said Tom.

"Divide!" said Bobby. "What does that mean?



During the next few days Bobby learned what "divide" means. One day four of Bobby's friends came up the lake in two canoes. The picture shows the boys in the canoes.

Tom asked Bobby these questions:

How many boys are in the canoes?

How many boys are in each canoe?

How many canoes are the boys riding in?

How many twos are there in four?

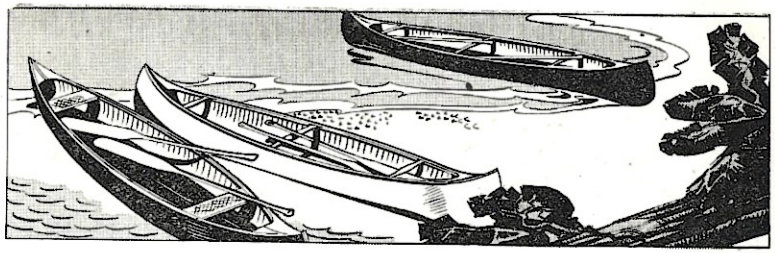
Soon they saw two more boys coming in another canoe.

How many boys are in the picture at the bottom of the page?

How many boys are in each canoe?

How many canoes are the boys riding in?

How many twos are there in six?



The six boys landed on the shore. They pulled their canoes up on the beach and sat down to talk to Tom and Bobby. Tom and Bobby showed them the hut that they were building. When the boys went back to the shore, they saw one of the canoes drifting out into the lake. It had not been pulled up high enough on the shore.

"Look!" cried Bill. "There goes our canoe."

"We'll all go in two canoes and get it," said Sam. "Three of us can ride in each canoe."

The picture below shows the boys going to bring back the drifting canoe.

How many boys are in the picture?

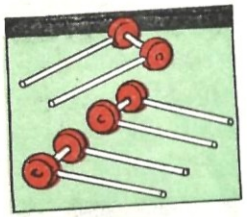
How many boys are in each canoe?

How many canoes are the boys riding in?

How many threes are there in six?

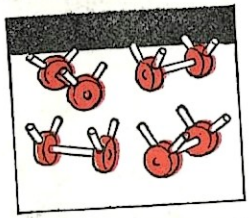
Making Toys

One day when it was raining, the boys played in the hut. They made toys with Sam's toy builders. The pictures on this page and those on the next page show the toys that they made.



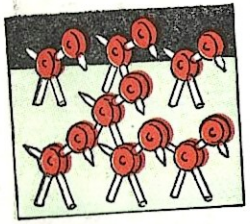
Joe used 6 spools to make carts. He divided the 6 spools so that he had 2 for each cart. Joe made 3 carts. The picture shows that there are 3 twos in 6.

How many spools did Bill use to make all the cradles? How many spools are in each one?



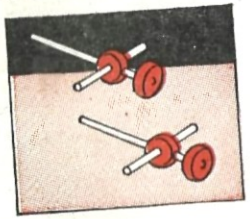
The spools are divided into how many twos? How many twos are there in 8?

How many spools did Sam use to make all the chickens? How many spools are in each one?



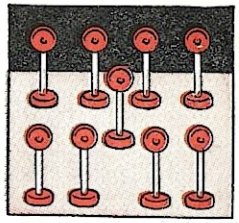
Into how many twos are the spools divided? How many twos are there in 14?

How many spools are in all the aeroplanes? How many spools are in each one?



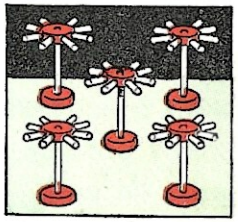
The spools are divided into how many twos? How many twos are there in 4?

How many spools did Joe use to make all the lamps? How many spools are in each one?



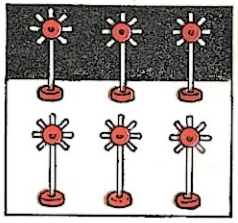
The spools are divided into how many twos? How many twos are there in 18?

Count the spools that are used to make all the clothes-racks. How many spools are in each one?



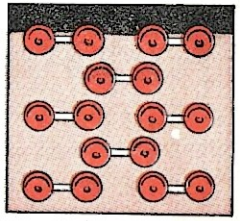
The spools are divided into how many twos? How many twos are there in 10?

How many spools did Bill use to make all the windmills? How many spools are in each one?



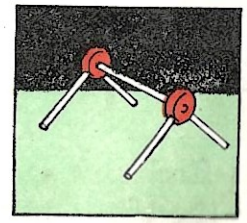
The spools are divided into how many twos? How many twos are there in 12?

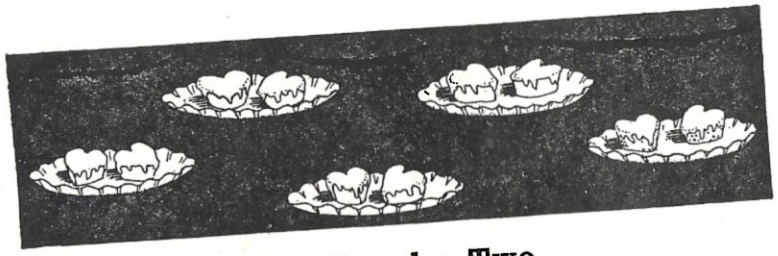
How many spools did Sam use to make all the glasses? How many spools are in each one?



The spools are divided into how many twos? How many twos are there in 16?

How many spools are in this picture? How many spools are in the tent? How many tents are there? How many twos are in 2?





Dividing by Two

Mother baked 10 little cakes for Bobby to give to his friends when the boys had a picnic at the hut. Bobby put the 10 cakes on paper plates. He put 2 cakes on each plate. How many plates did Bobby use for the 10 cakes?

To answer this question, we must think, "How many twos are there in 10?" The picture at the top of the page will help to answer the question.

$\begin{array}{r} 5 \\ 2\overline{)10} \end{array}$

The example at the left shows how many twos there are in 10.

The answer to the example is 5.

Read and learn the examples below.

A	B	C	D	E	F	G	H	I
$\begin{array}{r} 6 \\ 2\overline{)12} \end{array}$	$\begin{array}{r} 3 \\ 2\overline{)6} \end{array}$	$\begin{array}{r} 5 \\ 2\overline{)10} \end{array}$	$\begin{array}{r} 8 \\ 2\overline{)16} \end{array}$	$\begin{array}{r} 1 \\ 2\overline{)2} \end{array}$	$\begin{array}{r} 4 \\ 2\overline{)8} \end{array}$	$\begin{array}{r} 7 \\ 2\overline{)14} \end{array}$	$\begin{array}{r} 2 \\ 2\overline{)4} \end{array}$	$\begin{array}{r} 9 \\ 2\overline{)18} \end{array}$

5 times 2 is 10; so there are 5 twos in 10.

8 times 2 is 16; so there are __ twos in 16.

__ × 2 = 8. How many twos are there in 8?

Each row on the next page shows three ways to write the same thing. Give the answers.

1. __ × 2 = 10	How many twos in 10?	$2\overline{)10}$
2. __ × 2 = 18	How many twos in 18?	$2\overline{)18}$
3. __ × 2 = 4	How many twos in 4?	$2\overline{)4}$
4. __ × 2 = 8	How many twos in 8?	$2\overline{)8}$
5. __ × 2 = 12	How many twos in 12?	$2\overline{)12}$
6. __ × 2 = 6	How many twos in 6?	$2\overline{)6}$
7. __ × 2 = 14	How many twos in 14?	$2\overline{)14}$
8. __ × 2 = 2	How many twos in 2?	$2\overline{)2}$
9. __ × 2 = 16	How many twos in 16?	$2\overline{)16}$

Give the answer for each example below.

$2\overline{)12}$ $2\overline{)4}$ $2\overline{)10}$ $2\overline{)18}$ $2\overline{)6}$ $2\overline{)16}$ $2\overline{)14}$ $2\overline{)8}$

Read and learn the examples below.

A	B	C	D	E	F	G
$\begin{array}{r} 2 \\ 4\overline{)8} \end{array}$	$\begin{array}{r} 2 \\ 7\overline{)14} \end{array}$	$\begin{array}{r} 2 \\ 5\overline{)10} \end{array}$	$\begin{array}{r} 2 \\ 8\overline{)16} \end{array}$	$\begin{array}{r} 2 \\ 6\overline{)12} \end{array}$	$\begin{array}{r} 2 \\ 9\overline{)18} \end{array}$	$\begin{array}{r} 2 \\ 3\overline{)6} \end{array}$

What number of times 4 is 8? How many fours in 8?

Now give the answers for these examples:

1. __ × 4 = 8	How many fours in 8?	$4\overline{)8}$
2. __ × 7 = 14	How many sevens in 14?	$7\overline{)14}$
3. __ × 2 = 8	How many twos in 8?	$2\overline{)8}$
4. __ × 5 = 10	How many fives in 10?	$5\overline{)10}$
5. __ × 2 = 18	How many twos in 18?	$2\overline{)18}$
6. __ × 3 = 6	How many threes in 6?	$3\overline{)6}$
7. __ × 8 = 16	How many eights in 16?	$8\overline{)16}$

8. ___ × 2 = 10 How many twos in 10? $2\overline{)10}$

9. ___ × 2 = 2 How many twos in 2? $2\overline{)2}$

10. ___ × 9 = 18 How many nines in 18? $9\overline{)18}$

11. ___ × 6 = 12 How many sixes in 12? $6\overline{)12}$

Read the examples below, and give the answers.

$2\overline{)12}$ $5\overline{)10}$ $2\overline{)6}$ $7\overline{)14}$ $4\overline{)8}$ $2\overline{)16}$ $2\overline{)2}$ $9\overline{)18}$

$3\overline{)6}$ $2\overline{)14}$ $8\overline{)16}$ $2\overline{)4}$ $2\overline{)18}$ $6\overline{)12}$ $2\overline{)8}$ $2\overline{)10}$

A New Sign

The sign at the right tells us to divide. It is called the **division** sign.

÷

A
12 ÷ 2 = 6

Example A shows a short way to write: 12 divided by 2 is 6.
Read it: 12 divided by 2 is 6.

Examples B, C, D, and E mean the same thing.
They are called **division** examples.

B **$2\overline{)12}$**
C **12 ÷ 2**
D **2 into 12**
E **12 divided by 2**

Give the answers:

F

1. 6 divided by 2 is ___.
2. 2 into 12 is ___.
3. 2 ÷ 2 =
4. 14 divided by 7 is ___.
5. 2 into 8 is ___.

G

$2\overline{)14}$

8 ÷ 4 =

$8\overline{)16}$

4 ÷ 2 =

$9\overline{)18}$

H

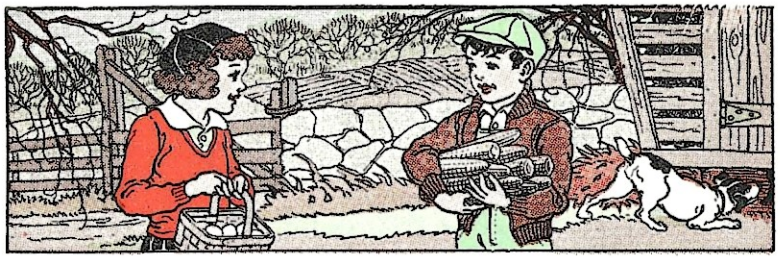
10 ÷ 5 =

3 into 6 is ___.

18 ÷ 2 =

$6\overline{)12}$

2 ÷ 2 =



At the Farm

Read carefully each problem on this page and the next.

If you should divide to get the answer, look at the examples at the bottom of this page. Find the one that gives the answer to the problem.

If you should add, subtract, or multiply to find the answer to a problem, make an example that shows the answer.

1. Grandfather gave Bobby 12 ears of corn to feed three horses. He told him to feed each horse the same number of ears. How many ears of corn should Bobby feed each of the three horses?

2. Betty picked out 9 big apples to bake for dinner. Only 3 apples would go in each of her grandmother's baking-pans. How many baking-pans were needed for the nine apples?

A	B	C	D	E	F	G	H
5	1	6	8	4	9	3	7
$3\overline{)15}$	$3\overline{)3}$	$3\overline{)18}$	$3\overline{)24}$	$3\overline{)12}$	$3\overline{)27}$	$3\overline{)9}$	$3\overline{)21}$

3. Betty feeds 12 chickens each day. She feeds 6 fewer chickens than Bobby. How many chickens does Bobby feed?

4. Bobby and Betty helped Grandmother shell 21 ears of corn. Each of the three shelled the same number of ears. How many ears did each shell?

5. Bobby walks 3 miles each day to get the cows. How far does he walk in 5 days to get the cows?

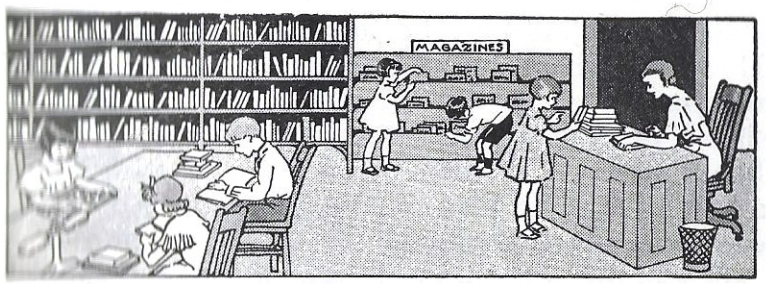
6. Betty put 27 pennies in her bank in 3 weeks. She put in the same number of pennies each week. How many pennies did she put in each week?

7. Grandfather had 18 dozen eggs to sell. Bobby helped him to wrap them in packages of 3 dozen each. How many packages of eggs did they have?

Give the answers to the examples below.

	A	B	C
1.	$\_ \times 3 = 24$	How many threes in 24?	$3\overline{)24}$
2.	$3 \times \_ = 15$	15 divided by 3 is __.	$3\overline{)15}$
3.	$\_ \times 3 = 9$	How many threes in 9?	$3\overline{)9}$
4.	$\_ \times 3 = 12$	How many threes in 12?	$3\overline{)12}$
5.	$3 \times \_ = 3$	3 divided by 3 is __.	$3\overline{)3}$
6.	$3 \times \_ = 27$	27 divided by 3 is __.	$3\overline{)27}$
7.	$\_ \times 3 = 21$	How many threes in 21?	$3\overline{)21}$
8.	$3 \times \_ = 18$	18 divided by 3 is __.	$3\overline{)18}$

Learn the examples at the bottom of page 11.



At the Library

Here are some problems about the library near Bobby's home.

Read each problem carefully. If you should divide to get the answer, look at the examples at the bottom of this page. Find the one that shows how to get the answer to the problem. If you should add, subtract, or multiply to get the answer, make an example that shows the answer.

1. The library has 27 books about plants and animals. 9 of these books are on each shelf in the corner. How many shelves are in the corner?

2. One day the library got 15 newspapers. The same number of newspapers was put on each of 5 tables. How many newspapers were put on each table?

A	B	C	D	E	F
3	3	3	3	3	3
$6\overline{)18}$	$5\overline{)15}$	$8\overline{)24}$	$7\overline{)21}$	$4\overline{)12}$	$9\overline{)27}$

3. Each child may borrow 4 books at one time. How many books in all may 12 children borrow at one time?

4. The library bought 24 new books. The new books were of 8 different kinds. There were the same number of each kind. How many books of each kind were bought?

5. Bobby was fined 12 cents for returning 4 books late. The fine was the same for each book. How much was the fine for each book?

6. The library has 21 shelves filled with hero books and 3 shelves filled with animal books. How many shelves does the library have for these two kinds of books?

Give the answers for the examples below.

A	B	C
1. $\_ \times 3 = 15$	How many threes in 15?	$3\overline{)15}$
2. $\_ \times 8 = 24$	How many eights in 24?	$8\overline{)24}$
3. $3 \times \_ = 12$	12 divided by 3 is __.	$3\overline{)12}$
4. $\_ \times 3 = 27$	How many threes in 27?	$3\overline{)27}$
5. $6 \times \_ = 18$	18 divided by 6 is __.	$6\overline{)18}$
6. $\_ \times 7 = 21$	How many sevens in 21?	$7\overline{)21}$
7. $4 \times \_ = 12$	12 divided by 4 is __.	$4\overline{)12}$
8. $\_ \times 5 = 15$	How many fives in 15?	$5\overline{)15}$
9. $3 \times \_ = 9$	9 divided by 3 is __.	$3\overline{)9}$
10. $9 \times \_ = 27$	27 divided by 9 is __.	$9\overline{)27}$

Learn the examples at the bottom of page 13.

Using One-Half and One-Third

Bill and Jack each had a toy train. Each boy had the same number of cars. One day at Jack's house, the boys put all the cars in one train.

There were 12 cars in the train. One-half of the 12 cars were Jack's. How many cars were Jack's?

To find $\frac{1}{2}$ of 12, divide 12 by 2. $\frac{1}{2}$ of 12 is 6.

To find $\frac{1}{2}$ of any number, divide it by 2.

$\frac{1}{2}$ of 8 = $\frac{1}{2}$ of 16 = $\frac{1}{2}$ of 10 = $\frac{1}{2}$ of 4 =

Then the boys divided the 12 cars into three trains. Each train had the same number of cars. They put one-third of the cars in each train.

The picture shows what the three trains looked like. How many cars are there in all three trains?

One-third of the cars are in each train.

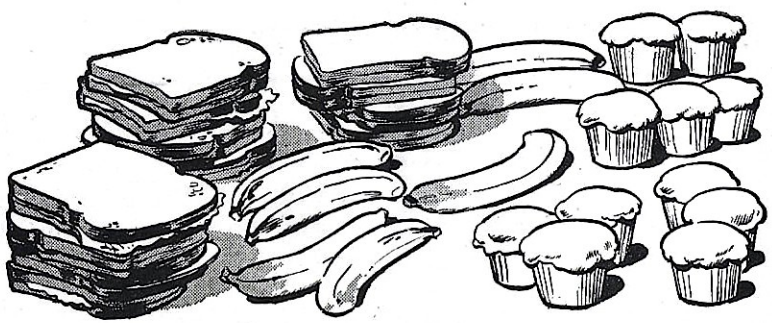
How many cars are there in each train?

One-third of 12 cars is ____ cars.

To find $\frac{1}{3}$ of 12, divide 12 by 3. $\frac{1}{3}$ of 12 is 4.

To find $\frac{1}{3}$ of any number, divide it by 3.

1. $\frac{1}{3}$ of 8 = ?
2. $\frac{1}{3}$ of 9 = ?
3. $\frac{1}{3}$ of 15 = ?
4. $\frac{1}{3}$ of 14 = ?
5. $\frac{1}{3}$ of 27 = ?
6. $\frac{1}{3}$ of 2 = ?
7. $\frac{1}{2}$ of 12 = ?
8. $\frac{1}{3}$ of 12 = ?
9. $\frac{1}{2}$ of 16 = ?
10. $\frac{1}{3}$ of 21 = ?
11. $\frac{1}{2}$ of 4 = ?
12. $\frac{1}{3}$ of 18 = ?
13. $\frac{1}{2}$ of 18 = ?
14. $\frac{1}{2}$ of 6 = ?
15. $\frac{1}{3}$ of 24 = ?
16. $\frac{1}{3}$ of 3 = ?
17. $\frac{1}{2}$ of 10 = ?
18. $\frac{1}{3}$ of 6 = ?



A Saturday Hike

On Saturday, Sam, Joe, and Bill went on a hike. For their lunch Joe brought 12 sandwiches, Sam brought 7 bananas, and Bill brought 11 cakes.

At half-past eleven they stopped to eat their lunch. Each of the three boys ate 4 sandwiches.

"The sandwiches are all gone. Let's eat the bananas," said Sam, as he gave each of the boys 2 bananas.

"We have one banana left over," said Joe.

"Now let's divide the cakes," said Bill.

Each of the three boys took 3 cakes.

"There are 2 cakes left over," said Sam.

"Let's keep the cakes and the banana to eat later," said Bill.

The picture will help you to answer these:

12 divided by 3 is ____. Is anything left over?

7 divided by 3 is ____, and ____ left over.

11 divided by 3 is ____, and ____ left over.

Division with Remainders

When we divide 16 by 2, the answer is 8. There is nothing left over. We say that 16 is divided **evenly** by 2.

1. Which of the numbers below can you divide evenly by 2? Which can you divide evenly by 3?

4	7	15	9	12	10	13	16	19	11
5	12	21	9	22	8	24	18	13	29

2. The next number smaller than 7 that you can divide evenly by 2 is 6. Look at each number below. What is the next smaller number that you can divide evenly by 2? What is the next smaller number that you can divide evenly by 3?

11	17	9	15	3	19	13	7	5
10	25	22	7	23	16	24	14	28

Example A shows how to divide 15 by 2.

Divide. The next number smaller than 15 that we can divide evenly by 2 is 14.

$14 \div 2 =$ ___. We write 7 over ___.

Multiply. Think: $7 \times 2 =$ ___.

We write 14 under ___.

Subtract. Think: $15 - 14 =$ ___.

We write 1 under ___.

Compare. Think: Is the 1 that is left over smaller than the number we divided by?

The number left over is the **remainder**. It is always smaller than the number we divide by.

A

$$2\overline{)15}\quad 7,\ 14,\ 1$$

Playing Store

One day the children used the hut as a store. Mary was the store-keeper. She made this list of prices:

apples	5¢ each	milk	12¢ a quart
tomatoes	13¢ a can	berries	15¢ a box
soap	8¢ a cake	pepper	4¢ an ounce
doughnuts	25¢ a dozen	flour	$1.23 a sack

1. How much will 3 apples cost Sue?
2. John bought a box of berries. He gave Mary a quarter to pay for the box of berries. How much change should he get?
3. How much will 3 dozen doughnuts cost Joe?
4. The following children bought soap: Jim, 8 cakes; Bill, 6 cakes; Jack, 2 cakes; Betty, 3 cakes; Jane, 9 cakes. How many cakes of soap did all 5 of these children buy?
5. How much did Jack spend for soap?
6. How much did Betty spend for soap?
7. Bobby spent 15 cents for apples and 12 cents for pepper. How many apples did he buy? How many ounces of pepper did he buy?
8. How much will 6 quarts of milk cost Jim?
9. Sally gave the store-keeper $1.50 for a sack of flour. How much change should she get?
10. Andy had five dollars. He bought a sack of flour. How much money had he left?

11. Joe bought some apples and divided them among 4 friends. He gave each friend 3 apples. How many apples did Joe buy?
12. Nancy bought the following things:

    4 cans of tomatoes for 52¢
    2 dozen doughnuts for 50¢
    a sack of flour
    a cake of soap

How much did Nancy have to pay for all these things?

Learning through Practice

1. Divide in the examples below.

$2\overline{)3}$	$2\overline{)7}$	$3\overline{)19}$	$2\overline{)15}$	$3\overline{)24}$	$3\overline{)13}$	$3\overline{)7}$
$3\overline{)15}$	$2\overline{)11}$	$3\overline{)28}$	$3\overline{)14}$	$3\overline{)27}$	$3\overline{)10}$	$3\overline{)26}$

2. Find the answers for these examples:

A	B	C
$4 \div 3$	$19 \div 2$	$17 \div 3$
$877 - 718$	9×30	$157 + 89$
6×130	$821 - 694$	$5 \div 3$
$222 - 85$	$14 \div 2$	8×103

3. Work each example below.

20 divided by 3 = ___.	Multiply 84 by 2.
3 times 208 = ___.	Add 362 and 436.
Subtract 127 from 320.	Divide 13 by 2.
214 multiplied by 3 = ___.	645 plus 275 = ___.

Note to the Teacher.—At this point, teach the children to divide three-digit numbers by 2 and 3; e.g. $158 \div 2$; $261 \div 3$; $216 \div 3$, etc.

Learning about Indians

Read carefully the problems on this page and those on the next page.

If you should divide to get the answer to a problem, look at the examples at the bottom of this page. Find the example that shows how to get the answer. If you should add, subtract, or multiply, make an example that shows the answer.

1. Miss Fisher divided the 36 children in her room into 4 equal groups to make wigwams. How many children were in each group?

2. The girls made 32 rugs. They put the same number of rugs in each of the 4 wigwams. How many rugs did they put in each wigwam?

3. The boys made 6 bows and 24 arrows. They made the same number of arrows for each of the bows. How many did they make for each bow?

A $4\overline{)20}$	B $4\overline{)28}$	C $9\overline{)36}$	D $6\overline{)24}$	E $4\overline{)4}$	F $5\overline{)20}$
G $8\overline{)32}$	H $4\overline{)36}$	I $4\overline{)16}$	J $4\overline{)24}$	K $4\overline{)32}$	L $7\overline{)28}$

4. The children used Indian pictures to make books. They put 4 pictures in each book. How many books did they make from 28 pictures?

5. The girls used 16 yards of paper to make Indian dresses. There were 4 yards of paper in each dress. How many dresses did they make?

6. Each of 9 girls made 4 strings of beads. How many strings of beads did all 9 girls make?

7. The children made an Indian head-band of 20 feathers. Each of several boys painted 5 of the feathers. How many boys painted the feathers?

Give the answers to the examples below.

	A	B	C
1.	$\_\times 4 = 20$	How many fours in 20?	$4\overline{)20}$
2.	$4\times\_ = 24$	24 divided by 4 is __.	$4\overline{)24}$
3.	$4\times\_ = 32$	32 divided by 4 is __.	$4\overline{)32}$
4.	$\_\times 9 = 36$	How many nines in 36?	$9\overline{)36}$
5.	$\_\times 4 = 16$	How many fours in 16?	$4\overline{)16}$
6.	$7\times\_ = 28$	28 divided by 7 is __.	$7\overline{)28}$
7.	$\_\times 4 = 36$	How many fours in 36?	$4\overline{)36}$
8.	$\_\times 5 = 20$	How many fives in 20?	$5\overline{)20}$
9.	$8\times\_ = 32$	32 divided by 8 is __.	$8\overline{)32}$
10.	$6\times\_ = 24$	24 divided by 6 is __.	$6\overline{)24}$
11.	$\_\times 4 = 28$	How many fours in 28?	$4\overline{)28}$
12.	$\_\times 4 = 4$	How many fours in 4?	$4\overline{)4}$

Learn the examples at the bottom of page 20.

To the Teacher.—At this point teach the pupils how to check division examples by multiplication.

More Division by Four

One day the girls took all the books from the shelves and dusted them. They dusted 72 books. When they put the books back, they put the same number on each of the 4 shelves.

How many books did they put on each shelf?

A

$$4\overline{)72}\quad 18\quad 4\quad 32\quad 32$$

Look at example A.

How do we get the 1 in the answer?

How do we get the 4 under the 7?

How do we get the 3 under the 4?

Is the 3 smaller than the number that we divided by?

What figure do we bring down?

How do we get the 8 that is written above the 2?

Check example A to see if the answer is correct.

Now answer the question about the books.

Find the answers:

$3\overline{)198}$	$4\overline{)212}$	$4\overline{)280}$	$2\overline{)54}$	$4\overline{)356}$	$4\overline{)180}$
$4\overline{)84}$	$4\overline{)296}$	$3\overline{)207}$	$4\overline{)276}$	$8\overline{)320}$	$4\overline{)384}$

Example B shows how we divide 214 by 4. What is the remainder in this example?

B

$$4\overline{)214}\quad 53\quad 20\quad 14\quad 12\quad 2$$

Divide:

$3\overline{)255}$	$4\overline{)318}$	$2\overline{)1132}$	$4\overline{)179}$	$3\overline{)605}$	$2\overline{)56}$
$4\overline{)857}$	$8\overline{)160}$	$2\overline{)123}$	$3\overline{)191}$	$4\overline{)1056}$	$2\overline{)171}$

The School Picnic

Read carefully the problems on this page and those on the next page.

If you should divide to get the answer to a problem, look at the examples at the bottom of this page. Find the example that shows how to get the answer. If you should add, subtract, or multiply to get the answer, make an example that shows the answer.

1. The children in Bobby's room had a picnic. 35 of them went in cars. 5 children went in each car. How many cars did they use?

2. 19 of the children who went in cars were girls. How many boys went in cars? One of the figures you need for this problem is in problem 1.

3. Mary made 45 sandwiches. She divided them equally among 9 boys. How many sandwiches did she give each boy?

A $5\overline{)45}\quad 9$	B $8\overline{)40}\quad 5$	C $6\overline{)30}\quad 5$	D $5\overline{)35}\quad 7$	E $5\overline{)25}\quad 5$
F $7\overline{)35}\quad 5$	G $5\overline{)40}\quad 8$	H $9\overline{)45}\quad 5$	I $5\overline{)30}\quad 6$	J $5\overline{)5}\quad 1$

4. John spent 40 cents for ice-cream cones for his friends. He paid 5 cents for each cone. How many cones did he buy for his friends?

5. John also spent 15 cents for candy. How much did he spend in all for cones and candy?

6. There were 25 girls swinging at one time on 5 swings. The same number of girls were on each swing. How many girls were on each swing?

7. 30 of the children ate 5 cookies apiece. How many cookies did all 30 children eat?

8. Nancy filled 30 paper cups with lemonade. A pint of lemonade filled 5 cups. How many pints of lemonade were needed to fill the 30 cups?

Give the answers:

	A	B	C
1.	$8 \times \_ = 40$	40 divided by 8 is —.	$8\overline{)40}$
2.	$\_ \times 5 = 30$	How many fives in 30?	$5\overline{)30}$
3.	$\_ \times 5 = 5$	How many fives in 5?	$5\overline{)5}$
4.	$5 \times \_ = 25$	25 divided by 5 is —.	$5\overline{)25}$
5.	$\_ \times 7 = 35$	How many sevens in 35?	$7\overline{)35}$
6.	$5 \times \_ = 45$	45 divided by 5 is —.	$5\overline{)45}$
7.	$\_ \times 6 = 30$	How many sixes in 30?	$6\overline{)30}$
8.	$5 \times \_ = 40$	40 divided by 5 is —.	$5\overline{)40}$
9.	$9 \times \_ = 45$	45 divided by 9 is —.	$9\overline{)45}$
10.	$\_ \times 5 = 35$	How many fives in 35?	$5\overline{)35}$

Learn the examples at the bottom of page 23.

Dividing by Five

Sally had 39 cents with which to buy a birthday present for her mother.

Sally bought as many roses at 5 cents each as she could.

How many roses did she buy?

How much money had she left?

Divide:

	A	B	C	D	E	F
1.	$5\overline{)36}$	$5\overline{)35}$	$5\overline{)12}$	$4\overline{)39}$	$5\overline{)43}$	$3\overline{)27}$
2.	$5\overline{)29}$	$3\overline{)22}$	$5\overline{)8}$	$7\overline{)21}$	$5\overline{)34}$	$5\overline{)47}$
3.	$2\overline{)14}$	$5\overline{)21}$	$4\overline{)6}$	$5\overline{)16}$	$5\overline{)38}$	$5\overline{)15}$
4.	$5\overline{)13}$	$2\overline{)17}$	$5\overline{)41}$	$5\overline{)27}$	$4\overline{)24}$	$5\overline{)6}$
5.	$5\overline{)32}$	$5\overline{)19}$	$8\overline{)32}$	$3\overline{)7}$	$5\overline{)48}$	$4\overline{)23}$

Dividing Large Numbers by Five

Sally had a book in which there were 85 puzzles. Sally and her friends worked all the puzzles in 5 days. They worked the same number on each of the 5 days. How many did they work each day?

Divide these examples, and check your work:

$5\overline{)295}$	$4\overline{)112}$	$5\overline{)1635}$	$3\overline{)236}$	$4\overline{)3134}$	$5\overline{)819}$
$9\overline{)2700}$	$5\overline{)330}$	$4\overline{)387}$	$3\overline{)108}$	$5\overline{)307}$	$2\overline{)172}$
$4\overline{)2316}$	$5\overline{)436}$	$3\overline{)189}$	$5\overline{)3415}$	$4\overline{)956}$	$5\overline{)640}$

Learning through Practice

1. Find the sums:

78				38		
9	501		24	37	389	
60	96	32	447	59	270	4
37	95	471	3	18	95	659
18	423	805	538	29	178	31

2. Subtract:

3714	900	1562	637	925	4905	531
1223	758	928	544	378	678	469
802	4404	696	8790	9054	302	686
169	2830	407	5916	9027	3	198

3. Multiply:

75	283	140	75	192	315	65
5	4	9	3	5	8	4
314	639	403	549	302	162	179
6	2	7	4	9	5	3

4. Find the answers:

$2\overline{)1042}$	$5\overline{)275}$	$4\overline{)1659}$	$5\overline{)2105}$	$3\overline{)256}$	$4\overline{)260}$
$5\overline{)395}$	$3\overline{)2403}$	$7\overline{)2800}$	$2\overline{)783}$	$4\overline{)2732}$	$5\overline{)419}$

Multiply 142 by 4.
Add 42, 31, 602, and 8.
Divide 3813 by 4.

5 times 546 is ____.
8 into 160 is ____.
342 minus 65 is ____.

CHAPTER 2

MULTIPLYING AND DIVIDING WITH 6 AND 7

Making Puppets

The children in Miss Marsh's room were getting ready to give a puppet play about Indians. The play was called "The Hunters and the Traders." The boys were making the stage. The girls were making the puppets and some of the things for the stage.

The problems on the next two pages tell about the work the girls did.

Read each problem carefully. Decide whether you should add, subtract, multiply, or divide. Then find the answer. If you do not know the answer to a multiplication problem, look at the bottom of page 28 for an example that gives the answer.

1. The girls made 6 little wigwams of paper and wire. They used 9 wires for each wigwam. How many wires did they need for all the wigwams?

2. Miss Marsh asked 8 girls to make the Indian puppets, and 6 other girls to make clothes for them. How many girls in all did she ask to make the Indian puppets and their clothes?

3. The girls needed 6 little feathers for each Indian puppet that they made. How many feathers did they need for all 7 Indian puppets?

4. Mary found that the clothes for each trader puppet would cost 8¢. How much would the clothes for all 6 trader puppets cost?

5. One child would work each puppet in the play. How many children would be needed to work the 7 Indian puppets and the 6 trader puppets?

6. Jane and Miss Marsh were buying 3 yards of cloth for a stage curtain. They had 45¢ to spend. What was the most they could pay for each yard?

7. The girls sewed 6 buttons on the clothes for each trader puppet. They had 6 trader puppets. How many buttons did they need for the clothes for all the trader puppets?

A	B	C	D	E	F	G
7 ×6 = 42	6 ×6 = 36	6 ×9 = 54	8 ×6 = 48	6 ×8 = 48	9 ×6 = 54	6 ×7 = 42

8. Miss Marsh gave Sue 9 sheets of cardboard to make animals. When Sue had finished making the animals, Miss Marsh asked her how many sheets she had used. Sue had 6 sheets left. How many sheets had she used?

9. It took Molly 6 minutes to make a buffalo out of cardboard. It took Nancy 9 times that long to make a tree. How long did it take Nancy to make a tree?

Learn the multiplication examples with their answers at the bottom of page 28.

Give the answers for the examples below.

3 ×7	6 ×2	8 ×6	5 ×5	6 ×9	9 ×3	0 ×8	7 ×6	5 ×3	6 ×8
6 ×6	5 ×7	9 ×6	8 ×4	3 ×6	8 ×6	4 ×5	5 ×8	6 ×7	6 ×6
6 ×9	1 ×7	9 ×5	6 ×8	7 ×6	2 ×9	9 ×6	3 ×8	5 ×6	6 ×7

Multiplication Practice

Copy these examples, and multiply:

206 × 3	61 × 9	67 × 5	600 × 7	24 × 8	603 × 6	758 × 2	740 × 4
80 × 6	42 × 7	904 × 6	308 × 5	93 × 4	71 × 6	612 × 8	435 × 9

At the Fair

Read carefully the problems on this page and those on the next page. Decide whether you should add, subtract, multiply, or divide. Then find the answer. If you cannot work out the answer for a division problem, look at the bottom of this page and find the example that gives the answer.

1. On Friday, 36 children from Bobby's room went to the fair. Some of the mothers took all the children in cars. They took 6 children in each car. How many cars were there for the children?

2. Miss Marsh gave each of the 36 children 4 tickets to be used at the fair. How many tickets did she need for all the children?

3. John had read that there were 54 large pumpkins at the fair. He found them on 6 tables in the farm building. He counted the same number on each table. How many were there on each table?

4. Sam saw a book for 48¢ that he wanted to buy. He had only 8¢ with him. How much money would Sam have had to borrow to buy the book?

A	B	C	D	E	F	G	H
8	6	6	7	6	9	1	6
6)48	6)36	9)54	6)42	8)48	6)54	6)6	7)42

5. John counted 48 children ahead of him, waiting to ride on the little train. The train could haul 8 children on each trip. How many trips did the train make before John could ride?

6. Bill thought that 200 persons could eat at one time in the lunch-room at the fair. He counted 31 tables with 8 chairs each. Could 200 persons have eaten at one time in the room?

7. Sue's uncle gave her a box of candy. After she had eaten some, there were 42 pieces left. She divided them equally among 7 friends. How many pieces did she give each friend?

8. John watched a man put 54 pigs in 9 pens. The man put the same number in each pen. How many did he put in each pen?

Give the answers:

	A	B	C
1.	$6 \times \_\_ = 54$	54 divided by 6 is ___.	6)54
2.	$\_\_ \times 7 = 42$	How many sevens in 42?	7)42
3.	$\_\_ \times 6 = 6$	How many sixes in 6?	6)6
4.	$6 \times \_\_ = 48$	48 divided by 6 is ___.	6)48
5.	$9 \times \_\_ = 54$	54 divided by 9 is ___.	9)54
6.	$\_\_ \times 6 = 36$	How many sixes in 36?	6)36
7.	$8 \times \_\_ = 48$	48 divided by 8 is ___.	8)48
8.	$\_\_ \times 6 = 42$	How many sixes in 42?	6)42

Learn the examples at the bottom of the opposite page.

Division Practice

Give the answers for these examples:

$3\overline{)18}$	$6\overline{)42}$	$5\overline{)10}$	$9\overline{)54}$	$7\overline{)21}$	$6\overline{)48}$	$6\overline{)12}$
$8\overline{)24}$	$4\overline{)4}$	$6\overline{)36}$	$2\overline{)12}$	$8\overline{)48}$	$4\overline{)0}$	$6\overline{)42}$
$6\overline{)54}$	$8\overline{)16}$	$7\overline{)42}$	$9\overline{)45}$	$6\overline{)6}$	$5\overline{)30}$	$7\overline{)7}$
$3\overline{)12}$	$6\overline{)48}$	$9\overline{)36}$	$4\overline{)24}$	$6\overline{)0}$	$6\overline{)36}$	$2\overline{)6}$
$8\overline{)48}$	$7\overline{)35}$	$9\overline{)54}$	$6\overline{)6}$	$8\overline{)32}$	$7\overline{)42}$	$6\overline{)54}$

Learning through Practice

1. Find the sums, and check your work:

464		47		66	21	68
39	32	28	859	185	38	255
7	510	37	218	90	24	479
237	895	19	18	461	17	29

2. Find the differences, and check your work:

990	753	4188	601	4021	9222	800
351	689	91	345	3708	2732	604

3. Multiply in each example, and check your work:

139	78	452	54	306	543	428
3	5	9	6	5	8	4

Making a Stage

The boys in Miss Marsh's room made the stage for the puppet show. These problems tell about it.

Read each problem carefully. Use these four questions to help find the answer:

1. What is the question?
2. Should we add, subtract, multiply, or divide?
3. What numbers do we use to find the answer?
4. What is the answer?

1. To make the stage, the boys needed 12 boards that were 4 feet long, and 6 that were 2 feet long. How many boards of both lengths did they need?

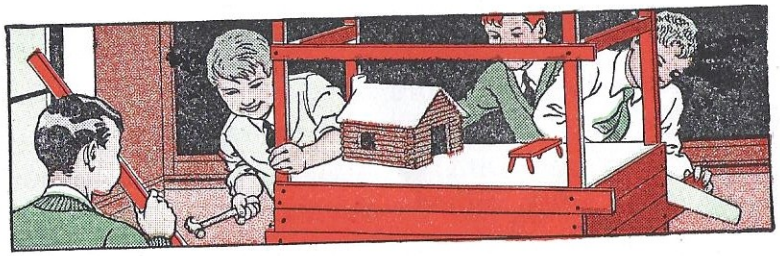
There are two numbers in problem 1 that we do not use in solving the problem. What are they?

Watch out for numbers that you do not need when you are finding answers to problems.

2. John found that 18 new boards, each 4 feet long, cost \$3.80, and 18 old ones only \$1.85. How much did he save by buying old boards?

3. The top of the stage was to be 48 inches from the floor. The bottom of the stage was to be 28 inches from the floor. How far was it to be from the bottom to the top of the stage?

4. Bill made 4 screens for the stage. He used 78 inches of cloth for each one. How many inches of cloth did he use for all 4 screens?



5. The boys needed 78 sticks, each 10 inches long, for the log cabin. John cut 16 sticks; Joe cut 15; Henry cut 18; Jack cut 22; and Tom cut 14. How many sticks did all 5 boys cut? Did they cut enough?

6. The boys made 18 little chairs. They made 2 chairs each day. How many days did it take them to make the 18 chairs?

7. The boys made a table 12 inches long. John measured and found that each chair placed beside the table would take 2 inches. How many chairs could be placed along one side of the table?

8. Tom had charge of the money for the stage. He gave John $.85 to buy black cloth. John bought 7 yards of cloth at 12¢ a yard. Did John spend all the money for the cloth?

9. Bill needed a wire 50 inches long for the curtain. He had a piece 4 feet long. Was it long enough?

10. Joe found that two pint cans of paint would cost $1.10. A quart can cost $.90. How much did Joe save by buying the quart can instead of the two pint cans?

Bill's Problems

On Saturday, Bill and his father were talking about the uses Bill had made of arithmetic that week. Here are some of the problems that Bill found he had solved. See if you can do them.

1. Miss Marsh gave Bill a box of pencils. She told him to put 5 dozen pencils on her desk and to give the others to Miss Fisher. How many pencils should he have put on Miss Marsh's desk?

2. Mother sent Bill to the store to buy 5 pounds of sugar. He could buy 5 pounds in a box for 30¢, or he could buy it in a bag for 5¢ a pound. Which was the cheaper way to buy it? How do you know?

3. Bill had saved $2.63. If he had bought a new pocket-knife for 75¢, would he have had enough money left to buy a book for $2.00?

4. Miss Marsh told him to give each child in the room 5 sheets of paper from a package of 200 sheets. There was enough paper for ____ children.

5. Four boys helped to buy some of the things they needed for the hut. Bobby paid 12¢, Ned 16¢, Tom 8¢, and Jack 15¢. How much did they pay in all?

6. Bill wanted a bicycle that cost $24.75. Uncle Joe gave him $12.50. Bill had saved $11.75. Did he have enough money to buy the bicycle?

7. On Friday, Bill returned a book to the library 14 days late. It cost him 3¢ for each day the book was late. How much did he have to pay?

Quick Drill

	A	B	C	D	E	F
1.	89 −16	104 ×2	5 yards = ... feet	27 +4	36 ÷ 6	72 −16
2.	47 +50	$\frac{1}{3}$ of 24	6×7+5	43 −7	5 nickels = ...¢	3)22
3.	9 into 18	90 −51	"Times" means	4)360	61 ×6	8+5+7
4.	9×5+4	32 ÷ 5	42 +29	$\frac{1}{2}$ pound = ... ounces	87 −36	25 ×3

1. Add; then check your work:

	517	59	682	85		249
44	39	87	60	72	107	717
753	95	69	108	8	738	47
32	300	28	72	68	217	249

2. Subtract; then check your work:

864	8170	952	3345	502	881	7006
855	3219	470	186	198	284	2265
900	471	2563	533	9753	843	512
752	6	1904	275	777	460	459

3. Divide; then check your work:

3)649	5)410	4)732	2)190	5)2058	3)252
4)1480	2)171	5)1620	4)3179	3)888	5)190

More Division by Six

1. Which of the numbers below can you divide evenly by 6?

30 25 37 12 9 16 42 48 36 24 20

2. Look at each number below. What is the next smaller number that you can divide evenly by 6?

44 33 7 29 57 40 53 16 20 13 26

3. What is the remainder when you divide in each of the following examples?

6)25	4)23	6)54	6)33	6)41	6)20	6)34
3)19	6)14	6)10	6)46	4)26	6)51	5)42
6)56	6)21	6)58	6)30	6)55	5)29	6)43

The example at the right shows how we divide 175 by 6.

How do we get the 2 in the answer?
How do we get the 12 under the 17?
How do we get the 54?
Is there a remainder?

```
  29
6)175
  12
  55
  54
   1
```

Copy these examples, and divide:

6)342	5)435	6)287	6)188	3)119	6)768
5)2830	6)450	2)540	6)1775	6)480	4)2519

More Practice for Those Who Need It

6)309	3)2739	5)239	6)2094	4)344	6)384

Problems for Careful Readers

We often get the wrong answer to a problem because the words in the problem trick us. We should read a problem very carefully and be sure we understand it before we try to solve it. Do not let the words trick you in the problems on this page and those on the opposite page.

1. Mary had 67 paper dolls. When she added her sister's paper dolls to hers, she had 125 dolls. How many paper dolls did her sister have?

2. John divided some apples among 4 friends. He gave Joe 14, Bill 15, Henry 15, and Tom 18. How many apples did John divide among the four boys?

3. Henry divided 96 pears equally among 4 boys. How many pears did he give each boy?

4. Mary divided some candy equally among 6 girls. She gave each girl 23 pieces of candy. How many pieces did she give all the girls?

5. Sue divided 85 cookies among 4 girls. She gave the first three girls 61 cookies in all. How many cookies did she give the fourth girl?

6. May's mother has a cupboard with 10 shelves. She put 24 glasses of jelly on each of 4 shelves, and 18 jars of fruit on each of 6 shelves. How many glasses of jelly did she put in the cupboard? How many jars of fruit did she put in the cupboard?

7. Jane practised 15 minutes after school each day for 5 days to learn how to work one of the puppets. She practised each day three times as long as Henry did. Find how many minutes Henry practised each day.

8. How many minutes did Jane practise in 5 days?

9. In a spelling test last week Sue spelled 12 words wrong. To find her score, she subtracted 12 from the number of words in the test. She found her score to be 28. How many words were in the test?

10. Andy found out that his father is 4 times as old as he is. Andy's father is 40 years old. How old is Andy?

A Doll Party

One afternoon the boys allowed Betty and her friends to have a doll party in the hut. Find the missing numbers in these problems about the party:

1. "There are 6 of us," said Betty. "Let's ask 5 girls from your room, Mary, and 5 from your room, Jane, to come to the party. If they all come, there will be ____ girls at the party."

2. "We shall need 3 quarts of ice-cream," said Mary. "At 35¢ a quart, the ice-cream will cost us $____."

3. "Mother will bake some cookies," said Jane. "There will be 16 of us, and 4 cookies apiece will be enough. So I'll ask her to bake ____ cookies."

4. "We must have money for the ice-cream," said Nell. "Let's ask each of the 16 girls to bring 7¢. Then we'll have $ ____ to buy the ice-cream for the party."

5. Just before the party, Sue told the girls that she had bought the three quarts of ice-cream for $.90.

"It cost me only ____¢ a quart," she said.

6. When the last girl came in, she saw 21 dolls in a row along the wall. Jane asked her to guess who owned each doll.

"You guessed 9 right and ____ wrong," said Jane, when the girl had finished guessing.

7. "There are 16 of us, and each has brought 3 dolls," said Molly, after all the girls were in the hut. "So there are ____ dolls here."

8. Alice measured some of the dolls. "The largest doll is 36 inches tall, and the smallest is 6 inches tall," she said. "The largest doll is ____ times as tall as the smallest."

9. Some of the girls played with Bobby's dart game. When Ann and Amy were playing, Ann hit 9, 5, and 7. Amy hit 8, 4, and 7.

"Ann's score is ____, and Amy's score is ____," said Betty. "So ____ wins the game."

10. When Jane and Molly played the dart game, Jane's score was 24, and Molly's score was 18.

"Your score is ____ more than mine, Jane," said Molly.

A Bird Hike

One Saturday morning, Mr. Orr and 10 children set out on a bird hike.

1. "I think it will take 30 minutes to walk to Brown's Woods," said Mr. Orr. "We'll spend 45 minutes there. Then we can walk to Fox Pond in 20 minutes. We'll spend 45 minutes there. We can walk home from Fox Pond in 40 minutes." How many minutes did Mr. Orr think that the hike would take?

2. Before they set out, Mr. Orr told Joe to get 3 apples from the cellar for each of the children. How many apples did Mr. Orr want Joe to get?

3. "My uncle has a bird book that tells about a red bird eating 35 moths a minute for 9 minutes," Mary said to Mr. Orr. How many moths did the bird eat in 9 minutes?

4. John and Bill kept count of the birds they saw on the way to Brown's Woods. John saw 13 robins, 9 bluejays, and 4 other birds. Bill saw 21 birds in all. How many birds did John see? Who saw more birds, John or Bill?

5. Sue saw a crow about 100 feet away. When she looked at it through Mr. Orr's field-glasses, the bird seemed much farther away.

"You are looking through the wrong end of the glasses," said Bobby. "That makes things seem 4 times as far away as they are."

About how far away did the crow seem to be when Sue looked through the wrong end of the glasses?

6. Mr. Orr told Tom that the plover flies from its home in the north to its home in the south without stopping. It flies 800 miles each day for 3 days. How far does it fly without stopping?

7. "How much faster can a robin fly than I can walk?" asked Tom.

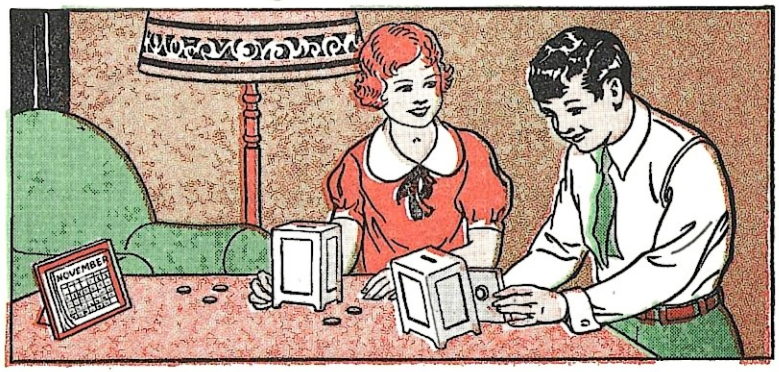
"You can walk about 3 miles in 1 hour," said Mr. Orr. "A robin can fly 24 miles in 1 hour."

A robin can fly how many times as fast as Tom can walk?

8. May decided to buy a pair of field-glasses. Bill told her she could get a pair for $3.90. May had only $1.75. How much more money did she need before she could buy the field-glasses?

9. Mr. Orr took 65 cookies on the hike to give to the children. Did he have enough cookies to give 6 to each child?

10. The girls saw 20 different kinds of birds on the hike. The boys saw only 14. How many more different kinds did the girls see than the boys?



Earning Christmas Money

Dick and Ann began early to save money to buy Christmas presents. They planned to earn all the money they would need for Christmas. They found many ways to earn money and had much fun getting ready for Christmas.

The problems on this page and the next two pages tell how Dick and Ann earned the money.

Read each problem carefully. Decide whether you should add, subtract, multiply, or divide. Then find the answer. If you do not know the answer to a multiplication problem, look at the bottom of page 44 for an example that gives the answer.

1. Dick kept the leaves raked from Mr. Brown's grass. He raked the leaves 8 times, and Mr. Brown paid him 7¢ each time. How much did Dick earn raking Mr. Brown's leaves?

2. One Saturday, Ann and Dick went on errands for Mr. Hunt. Mr. Hunt paid Ann 9¢ and Dick 7¢. How much did he pay both children?

3. Ann took Mrs. Baker's baby for a ride in her buggy each day. One week Ann spent 7 hours doing this. Mrs. Baker paid her 9¢ an hour. How much did Ann earn in this way that week?

4. Dick helped his brother Tom deliver papers for 7 days in October. Tom paid Dick 7¢ each day. How much did he pay Dick for all 7 days?

5. During the first week in November, Ann earned 56¢, and Dick earned only 8¢. How much more did Ann earn than Dick that week?

6. Dick's uncle paid him 8¢ a day for taking care of a dog. How much did Dick earn by taking care of the dog for 7 days?

7. One day when he was helping Mr. Fair at his store, Dick took a bag full of pennies to the bank. He changed 35 of them for nickels. How many nickels did he receive for these pennies?

8. When Ann counted her money on November 10, she had $2.04. She wanted to earn $1.50 more in the next 6 weeks. How much did she need to earn during each of the 6 weeks to do this?

A	B	C	D	E
8 ×7 56	7 ×9 63	7 ×8 56	7 ×7 49	9 ×7 63

9. Dick worked after school delivering packages for Mr. Fair. He delivered 7 packages each day for 9 days. How many packages did he deliver in all?

10. One week Ann earned 49¢, and Dick earned 63¢. How much less than Dick did Ann earn?

Learn the multiplication examples with their answers at the bottom of page 44.

Give the answers for the examples below.

7	9	8	6	7	4	7	7	9	8
×6	×5	×7	×6	×9	×6	×8	×7	×6	×7

Copy these examples, and multiply:

417	70	379	711	81	59	705	90
5	7	2	9	7	6	8	7

Jane's Hallowe'en Party

Read carefully the problems on this page and those on the next page. Decide whether you should add, subtract, multiply, or divide. Then find the answer. If you cannot get the answer for a division problem, look at the bottom of page 46 for the example that gives the answer.

1. Mary roasted some chestnuts for a Hallowe'en party. She roasted 49 nuts and divided them into 7 equal piles for the children who were coming to the party. How many nuts were in each pile?

2. Jane spent 56¢ for ice-cream in paper cups. It was on sale that day for 8¢ a cup. How many cups of ice-cream did she buy?

3. Jane tied strings to some big red apples and hung them up. The children were to try to grab them with their teeth without using their hands. Jane hung up 3 apples for each of the 7 children at the party. How many did she hang up?

4. Jane made 7 little jack-o'-lantern cups for the party. Her mother gave her a bag of jelly beans to put in them. Jane counted out 63 black and 63 yellow beans. She put the same number of beans of each colour in each cup. How many jelly beans of each colour did she put in each cup?

5. Aunt Sue gave Jane 56 Hallowe'en cookies. She told Jane there were just enough cookies to give 7 to each child at the party. How many children did Aunt Sue think would be at the party?

6. Jane put 63 blocks in piles of 9 blocks each for the children to step over blindfolded. How many piles were there to step over?

A	B	C	D	E	F
$7\overline{)56}$	$9\overline{)63}$	$7\overline{)7}$	$8\overline{)56}$	$7\overline{)49}$	$7\overline{)63}$

Give the answers:

	A	B	C
1.	$8\times\_=56$	56 divided by 8 is __.	$8\overline{)56}$
2.	$7\times\_=49$	49 divided by 7 is __.	$7\overline{)49}$
3.	$\_\times9=63$	How many nines in 63?	$9\overline{)63}$
4.	$7\times\_=56$	56 divided by 7 is __.	$7\overline{)56}$
5.	$\_\times7=7$	How many sevens in 7?	$7\overline{)7}$
6.	$\_\times7=63$	How many sevens in 63?	$7\overline{)63}$

Learn the examples at the bottom of page 46.

Give the answers for these examples:

	A	B	C	D	E	F	G
1.	$6\overline{)42}$	$9\overline{)27}$	$7\overline{)63}$	$4\overline{)12}$	$7\overline{)49}$	$8\overline{)56}$	$6\overline{)54}$
2.	$9\overline{)63}$	$8\overline{)40}$	$4\overline{)24}$	$7\overline{)56}$	$8\overline{)48}$	$7\overline{)7}$	$7\overline{)63}$
3.	$5\overline{)20}$	$7\overline{)49}$	$6\overline{)30}$	$3\overline{)27}$	$8\overline{)56}$	$7\overline{)42}$	$9\overline{)63}$
4.	$7\overline{)56}$	$6\overline{)36}$	$7\overline{)7}$	$9\overline{)54}$	$7\overline{)49}$	$7\overline{)63}$	$5\overline{)45}$

Find the sums:

	88	58	153	96		888
70	339	46	50	44	2117	26
3262	76	38	397	5	3405	539
825	500	19	301	27	2539	139

Find the differences:

442	5836	604	6747	738	5904	541
207	2490	308	6038	447	25	536

Jim, Amy, and their Kitten

At a pet store, Jim and Amy saw a little white kitten that they liked. Their mother told them she would buy it if they would promise to take care of it and to earn money to help pay for it.

1. The day Mother bought the kitten, the children gave her the money which they had earned. Jim gave her \$.77, and Amy gave her \$1.07. How much money did they both give her?

One of the numbers you need to answer problem 2 is missing. You will find it in problem 1.

2. Of the money that she gave her mother, Amy had earned \$.49 by doing errands. How much of the money had she earned in other ways?

What number from problem 1 did you use?

When you read a problem in which a number is missing, look for the number in some other problem that you have just worked.

3. Of the 77¢ he gave his mother, Jim had earned 50¢ by helping to clean Mr. Brown's cellar. He got the rest of the 77¢ by selling old papers. How much did he get by selling old papers?

Read problem 4 below. What do you need to know before you can solve this problem?

What problem tells how much each child gave Mother? Find the numbers that you need; then work problem 4.

4. Mother told Jim that he should give her as much money in all as Amy had given her. How much more money did Jim need to give his mother?

5. Jim found that they fed the kitten 3 cents' worth of milk each day. How much would milk for the kitten cost for thirty days?

6. Jim's father said that meat for his dog cost 8¢ each day. How much would the dog's meat cost for 30 days?

From what problems can you find the numbers that you will need to solve problem 7?

7. How much more each day did meat for the dog cost than milk for the kitten?

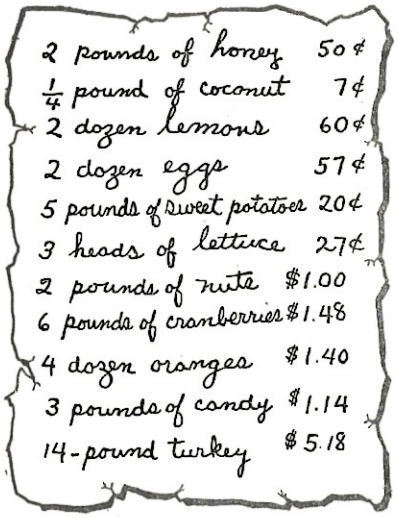
8. How much in all did it take each day to buy meat for the dog and milk for the kitten?

From what problem can you find the numbers that you will need to solve problem 9?

9. One week after they had bought the kitten, Jim gave his mother 34¢ more to help pay for his share. How much in all did he give to help buy the kitten? Did he give more or less than Amy?

10. Amy made a pretty bow of ribbon for the kitten. The ribbon cost 18¢. Jim paid one-half of the cost. How much did Jim pay?

Betty's Christmas List


2 pounds of honey 50¢
¼ pound of coconut 7¢
2 dozen lemons 60¢
2 dozen eggs 57¢
5 pounds of sweet potatoes 20¢
3 heads of lettuce 27¢
2 pounds of nuts $1.00
6 pounds of cranberries $1.48
4 dozen oranges $1.40
3 pounds of candy $1.14
14-pound turkey $5.18

When her mother was making the plans for the Christmas dinner, Betty made a list of all the things that they needed.

Betty read the newspaper to find out the prices of the things on her list. Here are the prices she found: eggs, 27¢ a dozen; nuts, 50¢ a pound; honey, 25¢ a pound; lettuce, 9¢ a head; coconut, 28¢ a pound; lemons, 35¢ a dozen; sweet potatoes, 4¢ a pound; cranberries, 18¢ a pound; oranges, 35¢ a dozen; candy, 38¢ a pound; 14-pound turkey, $5.18.

Betty worked out the cost of each thing on the list and wrote the cost beside it.

1. Check each of Betty's figures. Use the prices given above. Which things have the wrong costs written beside them?

2. Copy Betty's list without the costs. Find the price that your store charges for each of the things on the list that it sells. Then work out the cost of as many of these things as you can, and write the cost on your list.

Zero in Division

Mr. Best gave Tom a box with 324 coloured cards in it. He told Tom to divide the cards equally among his two brothers and himself. How many cards should Tom have given to each brother?

Example A shows the answer.

After we subtract 3 from 3, what figure do we bring down?

3 will not go into 2. So 0 is written in the answer. 0 times 3 is 0. We write 0 under the 2.

Then we subtract 0 from 2 and bring down the 4. How do we get the 8?

Tom should have given each brother ____ cards.

A

```
 108
3)324
 3
 2
 0
 24
 24
```

Always put a zero in the answer in division if you cannot divide after you bring down a figure.

Study the examples below until you know how to do them. Then copy them without the work, close your book, and find the answers.

B

```
 205
4)820
 8
 2
 0
 20
 20
```

C

```
 406
2)813
 8
 1
 0
 13
 12
 1
```

D

```
 307
5)1535
 15
 3
 0
 35
 35
```

E

```
 107
6)646
 6
 4
 0
 46
 42
 4
```

Practice in Division

6)4812	5)3515	3)147	6)2443	2)1406	5)675
4)3614	6)2960	7)420	4)3900	5)540	6)4209
2)1297	4)2832	5)2033	4)1640	6)5724	3)920

Remainders with Names

We must be careful to give the correct names to the answers for all problems. When we divide to get the answer to a problem, we should give a name to the remainder, if there is a remainder.

1. Alice had 26¢. She bought as many pencils at 3¢ each as she could. How many pencils did she buy? How many cents did she have left?

```
  8
3)26
 24
  2
```

The example on the left shows the answers. The name for the 8 is *pencils*. The name for the 2 is *cents*. Now answer the *two* questions in problem 1.

2. How many yards wide is a room that is 20 feet wide? The answer is ____ yards, and ____ feet left over. The name for the remainder is *feet*.

3. How many candy bars at 5¢ each can be bought for 89¢? How much money will be left? The answer is ____ candy bars, and ____ cents left over.

4. How many gallon milk cans can be filled from 75 quarts? What is the name for the remainder?

Note to the Teacher.—Teach the leap year for interesting practice in division by 4.

More Division by 7

1. Look at each number below. What is the next smaller number that you can divide evenly by 7?

50 11 17 25 59 8 32 53 40 64 45

2. What is the remainder when you divide?

7)25	7)58	7)14	7)48	7)33	7)60
5)37	7)65	7)54	6)59	7)16	7)23
7)47	8)56	7)19	7)68	4)38	7)49

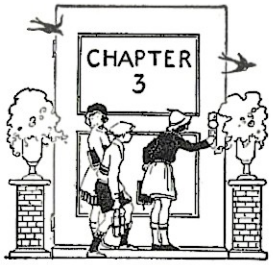
3. Copy these examples, and divide:

1. 5)186	7)245	6)1854	7)498	7)1260	3)103
2. 7)2814	4)3372	7)536	2)1810	6)472	7)6671

Quick Drill

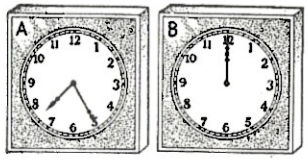
	A	B	C	D	E	F
1.	90 ×4	401 +128	65 −7	MON. means	27 ÷ 5	23 +68
2.	116 −41	4 feet = ... inches	23 ×7	9+1+8	347 −75	7 into 63
3.	½ of 64 =	3)249	76 +9	79 − 25	15¢ = ... nickels	602 ×3
4.	55 +27	6×6+3	3 weeks = ... days	4)96	74 ×8	121 −80
5.	6)41	70 −45	188 ÷ 2	145 ×2	20+50	"Plus" means .....

Can You Open the Door?



This page is the door to a new chapter. You can open the door if you can do the work below.

1. Write *one-fourth* in figures.
2. 16 quarts = ____ pints.
3. 40 quarters = ____ dollars.
4. How many days has March?
5. Write *seven thousand twelve* in figures.
6. Write *six cents* in figures in two ways.
7. How many days has November?
8. 59 days = ____ weeks and ____ days.
9. 71 quarts = ____ gallons and ____ quarts.
10. How many days will there be in 1950?
11. How many days will there be in 1952?
12. Clock A shows what time?
13. Clock B shows what time?



14. 732 feet = ____ yards.
15. 4 feet = ____ inches.
16. One- ____ of the squares at the right are black.

17. Find the sum: 7, 309, 68, 242.
18. Find the remainder when we divide 23 by 6.
19. How old will you be in 1963?
20. How much is 5 times 765?
21. What is the remainder when we divide 155 by 6?
22. Divide 600 by 4.
23. Multiply 798 by 6.
24. $5 \times 675 =$
25. $5567 \div 5 =$

MULTIPLYING AND DIVIDING WITH 8 AND 9

Helping in the Grocery Store

As soon as Mr. Lake found out that his son Jim could add, subtract, multiply, divide, and make change, he let him help in the store. Jim had to use arithmetic every time he sold anything. He was careful not to make any mistakes.

While he was helping in the store, Jim had to answer the problems on this page and the next.

Read each problem carefully. Decide whether you should add, subtract, multiply, or divide. Then find the answer. If you do not know the answer to a multiplication problem, look at the bottom of page 58 for an example that gives it.

1. If a girl had 20¢, how many cakes of soap at 6¢ each could she buy from Jim? What change should Jim give her?

2. Jim sold Mrs. Brown 9 cans of tomatoes at 9¢ a can. How much money did he receive?

3. How much should Jim have charged for 8 pounds of apples that sold for 9¢ a pound?

4. A little boy came into the store and bought 8¢ worth of candy. He had 64¢ before he bought it. He asked Jim how much money he should have left. What should Jim have told him?

5. Mary Jones bought 72¢ worth of butter and 9¢ worth of pepper. How much should Jim have charged her for both these things?

6. Mr. Lake told Jim to take 9 cans of corn, at 8¢ a can, to the Star Lunch Room. Jim delivered the corn and received the money for it. How much should he have received?

7. Jim charged 18¢ for one-half dozen oranges that sold for 36¢ a dozen. Did he charge enough?

8. Ann bought a dozen eggs for 23¢ and gave Jim a half-dollar. How much change should Jim have given Ann?

9. Frank bought 2 pounds of butter for 72¢. When he took out his money, he found that he had only 65¢. He asked Jim how much more he needed. What should Jim have told him?

A	B	C	D
9 ×8 = 72	9 ×9 = 81	8 ×8 = 64	8 ×9 = 72

10. How much should Jim charge for 8 grapefruit that sold for 8¢ each?

11. "I want 8 cans of tomatoes for Mother and 9 cans for Aunt May," said Frank. How many cans of tomatoes should Jim give Frank?

Give the answers for the examples below.

6 ×6	8 ×7	9 ×9	7 ×2	8 ×9	4 ×8	7 ×6	8 ×8	9 ×7	9 ×8
98 ×7	293 ×3	91 ×8	154 ×6	910 ×9	907 ×8	824 ×4	80 ×8		

The School Party

The children in Miss Marsh's room were giving a party for the third grade. The problems on the next page tell how they got ready for the party.

Read each problem carefully. Decide whether you should add, subtract, multiply, or divide. Then find the answer. If you cannot get the answer for a division problem, look at the bottom of the next page for an example that gives it.

The Puppet Show

On the Wednesday before Christmas, the children in Miss Marsh's room gave their puppet show.

1. Thirteen of the 37 pupils in the room worked back of the stage. The others sang Christmas songs. How many sang Christmas songs?

2. Children from 3 other rooms came to see the show. 39 came from Room 3, 42 from Room 5, and 36 from Room 6. How many children came?

3. They gave the play 3 times. Each time, different persons came to see it. It took 51 minutes to give the play 3 times. What was the average number of minutes it took each time?

4. One hundred sixty-eight persons came to see the play. Of these, 117 were pupils. All the others were mothers. How many mothers came?

5. Some of the boys brought 48 chairs from 4 other rooms for the play. They brought the same number from each room. How many chairs did they bring from each of the 4 rooms?

Note to the Teacher.—The meaning of the term "average" should be explained.

Christmas Dinner

Some numbers and words have been left out of this story. As you read it, do the work that is needed to find the missing numbers or words.

On Christmas morning Betty helped Mother by setting the tables for dinner. She set 12 places at the big table and 7 at the children's table.

"That makes __ places in all," said Betty to herself. "I shall need 3 spoons for each place. So I must get __ spoons for the big table and __ for the children's table."

Mother asked Bobby to find chairs for both tables. In the rooms downstairs, he found 8 chairs for the big table and 3 chairs for the little table. In all he found __ chairs downstairs. He needed __ more chairs for the big table and __ more for the children's table. He found them upstairs.

After dinner the children played Roll Ball. The points that each child made are shown below.

Ann	Henry	Mary	Sue	Andy	Betty
150	125	50	50	125	0
0	50	100	50	0	50
125	50	100	100	125	125

When they had finished playing, Bobby added. "Here are all your scores," he said. "Ann, __; Henry, __; Mary, __; Sue, __; Andy, __; Betty, __. "____, the smallest girl here, wins," he said.

1. There were 35 children in Miss Marsh's room and 37 in the third-grade room. How many children were there in both rooms?

2. Miss Marsh asked 9 girls to fold 72 paper napkins for the party. Each girl folded the same number of napkins. How many did each girl fold?

3. The children had 64¢ to spend for crepe paper. How many rolls of crepe paper could they buy at 8¢ a roll?

4. Miss Marsh bought 8 boxes of candy for the party. There were 64 pieces of candy in each box. How many pieces of candy did she buy?

5. The children decided to have brick ice-cream for the party. They found that they would need one quart brick for 8 children. How many quart bricks did they need for 72 children?

6. There were 81 folding chairs in the school. 9 of them were in the hall, and the others were in Room 12. How many were in Room 12?

7. The boys put all these chairs in rows of 9 chairs each. How many rows did they have?

8. The boys brought 2 apples for each of the 72 children at the party. How many apples did the boys bring?

A	B	C	D	E	F
9	9	1	8	1	8
8)72	9)81	8)8	8)64	9)9	9)72

Give the answers:

A	B	C
1. ___ × 8 = 64	How many eights in 64?	8)64
2. 9 × ___ = 72	72 divided by 9 is ___.	9)72
3. ___ × 9 = 9	How many nines in 9?	9)9
4. 8 × ___ = 72	72 divided by 8 is ___.	8)72
5. ___ × 9 = 81	How many nines in 81?	9)81
6. ___ × 8 = 8	How many eights in 8?	8)8

Give the answers for these examples:

1.	7)42	3)15	8)72	9)63	8)8	9)72	6)6
2.	9)9	8)48	7)49	8)64	9)81	6)18	8)72

Learning through Practice

1. Add:

	164	391		78	45	315
5409	30	682	4737	9	586	726
65	427	274	3605	9	327	644
2738	50	591	846	47	8	809

2. Subtract:

660	6390	867	7921	903	458	5007
625	5836	580	437	666	319	2814

3. Multiply:

357	806	1285	2596	784	1286	1094
6	3	7	2	4	6	7

Problems about the Library

1. The librarian told Bill that the 4 books he was borrowing cost the following amounts: $1.25, $.85, $1.75, $2.15. How much did they cost altogether?

2. One day the librarian told Mary that the library had just paid $7.92 for 6 new books. What was the average cost of these books?

3. During the first week of December the following numbers of books were borrowed:

Monday 123	Wednesday 210	Friday 348
Tuesday 189	Thursday 167	Saturday 390

How many books were borrowed in all that week?

4. How many more books were borrowed on Saturday than on Monday?

5. All except 36 of the books that were borrowed on Wednesday were story-books. How many were story-books?

6. Four times as many books were borrowed on this Friday as on the next Friday. How many books were borrowed on the next Friday?

Children must pay a fine of 3¢ for each day more than a week that they keep a book. How much was the fine for each of the following children?

7. John, who kept a book a week and 4 days.
8. Jane, who kept a book 6 days.
9. Alice, who kept a book a week and 6 days.
10. Joe, who kept two books a week and 1 day.

Baking Day

One Saturday, Mother was baking. Instead of playing out-of-doors, Amy wanted to learn how to make cakes and cookies. So she helped her mother with the baking.

1. Amy and her mother made 36 cup-cakes. They put nuts in $\frac{1}{4}$ of them. In how many cup-cakes did they put nuts?

2. Amy put chocolate icing on one-third of the cup-cakes that they made. On how many cup-cakes did she put chocolate icing?

What number from problem 1 did you use when you worked problem 2?

Sometimes the answer to one problem is the number you need in working another problem.

Before you can work problem 3, you must know how many cakes had chocolate icing. The answer to problem 2 tells you this.

3. Amy put white icing on all of the 36 cakes that did not have chocolate icing. On how many cakes did she put white icing?

4. Amy cut out 24 cookies, and her mother cut out 40. How many cookies did Amy and her mother together cut out?

Before you can work problem 5, you must find out from problem 4 how many cookies they made in all.

5. Each cooky pan would hold 8 cookies. How many pans were needed for all the cookies?

6. The oven would hold only 2 pans of cookies at one time. How many times did Amy have to fill the oven to bake all the cookies?

What number did you use from problem 5?

7. Amy's mother sent her to the store to buy 3 dozen eggs. Amy paid 69¢ for the eggs. How much change should she have received from $1?

8. When Amy returned home, she counted the eggs. She had 36 eggs. Did she buy 3 dozens?

9. They used 11 of the eggs for a large cake and 6 more for pies. How many eggs did they use for both the cake and the pies?

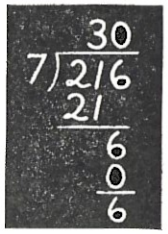
Before you can work problem 10, you must look at problems 8 and 9 for the numbers you need.

10. Amy put the eggs that were not used for the cake and pies in the ice-box. How many eggs did she put in the ice-box?

11. Amy's mother told her that the cost of the baking was as follows: 46¢ for eggs, 24¢ for sugar, 32¢ for flour, and 19¢ for other things. How much did the baking cost?

Division Answers with Zero and Remainder

The children at the Park School filled seven Christmas baskets for the Red Cross. They had 216 eggs to divide equally among the seven baskets. Miss Marsh asked Nancy to go to the blackboard and divide 216 by 7.



How did she get 3 in the answer?
What figure did she bring down?
She wrote 0 in the answer because 7 will not go into __.
How did she get the 0 under the 6?
Her answer was __ and __ remainder.
This means the children could put __ eggs in each basket and have __ eggs left over.

Copy the examples below without the work. Close your book, and divide. Then open your book to see if your work is correct. Correct any mistakes.

A
```
   50
3)151
  15
   1
   0
   1
```

B
```
   70
5)354
  35
   4
   0
   4
```

C
```
   20
4)82
  8
  2
  0
  2
```

D
```
   80
6)483
  48
   3
   0
   3
```

Now work the examples below. Be careful with answers that have zeros.

4)243 6)364 7)215 3)152 2)370 5)401

Examples for Good Workers

16	2	3	13
5	11	10	8
9	7	6	12
4	14	15	1

At the left is a magic square using all the numbers up to 16. Copy on your paper this magic square without the numbers.

Multiply each number in the magic square by 9. Write each new number in its correct place on your paper. You should write 144 in the upper left corner of your square, because $9 \times 16 = 144$.

Now add the numbers in each row across, each row up and down, and the row from each top corner to the corner farthest away. If all your work is correct, you will get the same sum for each of the ten rows.

Making Presents

Sue and Ann are learning how to make rag rugs and how to knit things to wear.

1. Sue is knitting a scarf to give her mother. She plans to make the scarf 56 inches long. She has found that she knits 8 rows to the inch. How many rows must she knit in making her mother's scarf?

2. The scarf is to be blue with 8 inches of yellow. How many rows must she knit in making the yellow part of the scarf?

3. How many rows must Sue knit in making the blue part of the scarf?

From what problems did you get the numbers that you used in working problem 3?

4. Sue bought 2 balls of blue yarn at 27¢ a ball. How much did the blue yarn cost?

5. She bought one ball of yellow yarn for 35¢. How much did the blue and the yellow yarn together cost?

6. Ann is making a rag rug to give her mother. She uses strips two inches wide for the rug. How many strips can she cut from some green cloth 36 inches wide?

7. How many strips can she cut from a piece of blue cloth 28 inches wide? From a piece of brown cloth 30 inches wide?

8. How many strips can she cut from all three pieces of cloth?

9. Ann made a long braid of these strips of green, blue, and brown cloth. She measured the braid and found it was 16 yards long. How many feet long was it?

10. Aunt Jane told Ann she would need 84 feet of braided rags for the rug. How much too short was the braid that she had?

11. Aunt Jane had given Ann the cloth for the sixteen-yard braid. Ann bought enough cloth to finish the rug for $.92. How much less did Sue pay for yarn than Ann paid for cloth?

Dolls of Other Lands

While the pupils of the Field School were reading about the children of other lands, they dressed dolls to look like these children.

1. When they had finished, they had 105 dolls dressed like the children of other lands. Fifty-seven of these dolls were dressed at school. The others were brought from home. How many were brought from home?

2. One-third of the dolls were dressed like European children. How many dolls were dressed like European children?

To find $\frac{1}{3}$ of a number you must divide by 3. What number did you divide by 3 in problem 2?

3. Patty dressed an Eskimo doll which cost $1.31. This doll cost $.37 more than the Indian doll that Sue dressed. How much did Sue's Indian doll cost?

4. Ellen brought a doll which was given to her grandmother, in Germany, in 1858. How many years ago was this doll given to her grandmother?

5. Ellen's grandmother brought the doll to this country in 1873. How long had she had it then?

6. One afternoon Anna wore to school a dress that her mother had brought from Sweden. It measured 4 yards around the bottom of the skirt. How many feet was it around the skirt?

7. Anna made a doll dress with the bottom of the skirt $\frac{1}{4}$ as wide as the bottom of her mother's dress. How many feet wide was the doll dress?

In what way is problem 7 like problem 2?

8. The smallest doll was 3 inches tall. The largest doll was 13 times as tall as the smallest doll. How tall was the largest doll?

Quick Drill

	A	B	C	D	E	F
1.	25 nickels = ... quarters	48 +3	71 ×9	9 into 45	136 −61	4+7+8
2.	206 −30	8×1+4	2)52	3 dozens = ...	3×87	455÷5
3.	900 ×8	½ gallon = ... quarts	94 −50	73+16	4)33	March has ..... days.
4.	48÷6	92−32	13 +79	9×6+5	¼ of 36	121 −96
5.	73 +15	3)195	2 dimes+ 1 nickel ..... = ¢	61 −38	57 +82	89 ×4

Numbers with Five Figures

Mary read in a book that between 1921 and 1931 the population of Canada grew at the rate of about one person every three minutes.

How many more persons do you think that would be in 500 hours? The number at the right shows the answer.

10,000

We read it this way: *ten thousand.*

If there are four or five figures in a number, we often use a comma to separate the three figures on the right from the others.

In numbers with four or five figures, we read the figures to the left of the comma as *thousand.*

The number below tells how many persons lived in the Yukon and the Northwest Territories in 1931. We read it: *eleven thousand three hundred sixty-three.*

11,363

1. Now read the words and numbers below.

Four thousand 4,000
Twenty thousand 20,000
Sixty-seven thousand 67,000
Seventeen thousand two hundred 17,200
Thirty-five thousand eight 35,008
Forty-eight thousand fifty-six 48,056

2. Read each of the numbers below.

Row A	12,000	5,640	84,527	912	3,504
Row B	20,719	7,129	8,037	91,346	56,208
Row C	70,930	9,007	10,002	90,900	86,731

3. Copy on your paper the numbers in rows D and E. Put a comma where it belongs in each number. Then read each number from your paper.

Row D	2095	6800	20719	60000	1000
Row E	99999	30003	79564	54300	80023

4. For each number in column A find the words in column B that tell how to read it.

A	B
a. 62,200	*1.* six thousand two hundred
b. 6,200	*2.* sixty thousand two hundred two
c. 6,202	*3.* sixty-two thousand two hundred
d. 60,202	*4.* six thousand two hundred two
e. 60,200	*5.* sixty-six thousand two
f. 60,002	*6.* sixty thousand two hundred
g. 66,002	*7.* sixty-two thousand six hundred two
h. 62,602	*8.* sixty thousand two

Read each of the following, and write the numbers in figures on your paper:

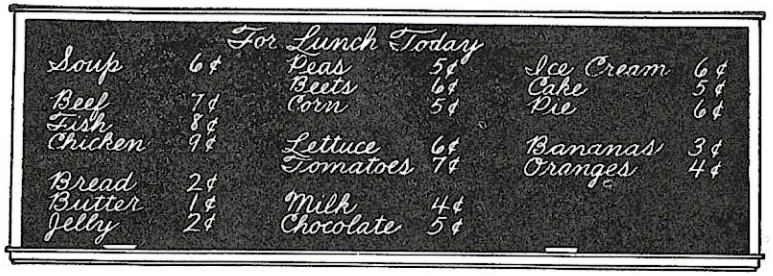
5. It is about twenty-four thousand nine hundred miles around the earth.

6. There are thirty-two thousand seven hundred eight schools and colleges in this country.

7. In 1931, there were twelve thousand four hundred twenty-seven post-offices in this country.

8. There are sixty-three thousand three hundred sixty inches in one mile.

9. Only ninety-six thousand one hundred ninety-six persons lived in Toronto in 1881.



The School Lunch-Room

The picture of the blackboard in the Kent School lunch-room shows the prices for food one day last week. From the list of prices find out how much each of these children paid for lunch that day:

1. Mary, who had soup, a banana, and milk.
2. Andy, who had beef, lettuce, bread, butter, and an orange.
3. Alice, who had beets, corn, tomatoes, bread, jelly, and chocolate.
4. Jane, who had soup, cake, and ice-cream.
5. John, who had chicken, tomatoes, and pie.
6. Sam, who had fish, peas, beets, and milk.
7. Soup was the same price every day. Alice had soup 4 times last week. How much did she pay for soup last week?
8. How much did Joe spend for milk if he had milk 5 days last week?
9. Miss Marsh told the children they should not spend more than $\frac{1}{3}$ of their lunch money for desserts. Ann spent $1.05 for lunches one week. Desserts should not have cost her more than ____.

Making Change

The children in Ann's room cut out some round pieces of cardboard the size of dollars, half-dollars, quarters, dimes, nickels, and pennies.

They planned to use this paper money in learning to make change.

On the largest pieces they wrote $1; on the next largest, 50¢. What do you think they wrote on the pieces that were the size of pennies? On the pieces that were the size of dimes?

When the money was ready, they played store.

1. Miss Marsh was the first store-keeper. Tom gave her a quarter to pay for 6¢ worth of sugar.

"Watch how I count to make change," she said. "I keep 6¢ for the sugar. So I start counting from 6." She counted "7, 8, 9, 10," as she gave him 4 pennies, one at a time. She said "15" as she gave him a nickel, and "25" as she gave him a dime. Did she give Tom the correct change?

Why did Miss Marsh count by ones for pennies, by fives for nickels, and by tens for dimes?

2. When John was store-keeper, Jane bought 14¢ worth of candy and gave him a half-dollar.

As John gave her a penny, he said, "15."

As he gave her a dime, he said, "25."

As he gave her a quarter, he said, "50."

Did John give Jane the correct change? Did he give her the smallest number of coins he could?

When you make change, begin to count with the coin that is worth the least. It is a good plan to give the smallest number of coins that you can.

3. When Betty was store-keeper, Sue bought 28¢ worth of groceries and gave Betty a half-dollar. As Betty handed Sue the change, she said, "29, 30, 40, 50." What coins did Betty give Sue in change?

4. If Betty had not had any dimes, what coins should she have given Sue? How should she have counted as she handed Sue the change?

5. Jim counted the change for a half-dollar for a sale of 20¢ as follows: "30, 40, 50." How could he have made change with only 2 coins?

The table below shows how much some children spent at the store and what coins they gave the clerk. What coins would you give in change to each child and how would you count the change?

Child	Money spent	Money given clerk
1. May	$ .12	Dime, nickel
2. Jim	$ .27	Quarter, dime
3. Ann	$ .51	Half-dollar, dime
4. Bill	$ .36	Quarter, dime, nickel
5. Nell	$ .29	Quarter, nickel
6. John	$ .78	Half-dollar, 2 quarters
7. Sue	$1.30	Dollar bill, 2 quarters
8. Betty	$ .54	2 half-dollars

Quick Drill

	A	B	C	D	E	F
1.	69 −49	June has ..... days.	423 ×2	65+52	4)100	¼ dozen = ...
2.	8×7+5	540 −28	3 into 93	$2 = ...dimes	28 +6	136 −59
3.	53 +43	162 ×3	7 feet + 2 feet = ...yards	15÷6	137−41	80 ×7
4.	⅓ of 81	8+9+7	130 −95	4×65	1 quarter +1 dime = ...¢	7)434

Problems about Food

One day after dinner Bobby and Betty hunted up facts about some of the food they had eaten at the meal.

1. Betty learned that the pineapple they had eaten had been sent 2200 miles by land and 2550 miles by water. How many miles had the pineapple been sent?

2. Bobby read that many bananas grow in South America. He found out by using a map that they must be sent 1970 miles by water and 640 miles by land to reach his home. How far must they be sent to reach his home?

3. How much farther was the pineapple sent than the bananas?

4. How much farther by water was the pineapple sent than the bananas? How much farther by land was the pineapple sent than the bananas?

5. Bobby also read that banana leaves often grow 9 feet long. Such leaves would be how many inches long?

6. Bobby told Betty that such leaves were about twice as long as she was tall. About how many inches tall was Betty?

7. Father told Bobby and Betty that bananas were first sold in this country in the year 1866. How many years ago were bananas first sold in this country?

8. Betty read that if all the sugar used each year in this country were divided equally among all the people, each person would use 99 pounds. How much sugar would that be for the 7 persons living in Betty's home?

9. If the 7 persons in Betty's home used this amount of sugar in one year, what would it cost at 6¢ a pound? What would be the cost for each person?

10. She also read that sugar-cane sometimes grows 18 feet tall. This is how many times as tall as her father, who is 6 feet tall?

11. Bobby read about an olive tree 700 years old and 40 feet high. In what year was this tree planted? How much taller is this tree than the sugar-cane about which Betty read?

Problems for Careful Readers

1. Mary wants to divide 124 sheets of paper equally among 5 friends. How many sheets can she give each friend? How many will be left?

2. Jack has a package of 250 sheets of paper. He wants to divide 125 of them equally among 5 friends. How many sheets should he give each friend? How many will be left in the package?

3. Tom earned 15¢ on Monday, 10¢ on Tuesday, and 35¢ on Wednesday. How much did he earn in these three days?

4. What was the average amount a day that he earned in these three days?

5. Jim earned $1.20 in three days. What was the average amount a day that he earned?

6. Frank earned an average of 25¢ a day for 5 days. Does this mean that he earned the same amount each day?

7. How much did Frank earn in all 5 days?

8. Frank earned $1.15 in the first four days. How much did he earn on the fifth day?

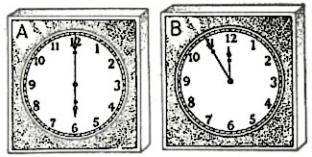
9. Betty bought a can of corn for 13¢. She gave Mr. Fair a quarter to pay for it. He gave her two pennies and two nickels in change. Did he give her the correct change? Did he make change in the easiest way?

10. Write out on your paper three other ways in which Mr. Fair could have made change.

Can You Open the Door?

This page is the door to a new chapter. You can open the door if you can do the work below.

1. Write *one-third* in figures.
2. 7 dollars = __ dimes.
3. How many days has June?
4. 8 pounds = __ ounces.
5. Write *eighty-nine thousand four hundred ten* in figures.
6. Write *sixty thousand* in figures.
7. Copy these numbers, and put commas where they belong: 34879 45000 10000
8. Write *nine cents* in figures in two ways.
9. $\frac{1}{4}$ of 1476 = __.
10. Clock A shows what time?
11. Clock B shows what time?



12. 76 quarts = __ gallons.
13. 100 nickels = __ quarters.
14. What two coins could you give in change for one dollar for a sale of sixty-five cents?
15. The sum of 9 numbers is 8829. What is the average of the 9 numbers?
16. If we divide 87¢ by 5, what is the remainder? What is the name for this remainder?

17. $7269 \div 8$ 18. 9×958 19. $9460 \div 9$
20. 8×819 21. $\$16.80 \div 8$ 22. $9 \times \$8.90$

CHAPTER 4

MULTIPLYING BY TWO-FIGURE NUMBERS

Mother's Birthday Present

Mary found a book at school that told how to make a pocket-book and cover it with beads. She decided to make one for a birthday present for her mother. Miss Marsh promised to help her.

"How many beads shall I buy?" asked Mary.

"You will need enough beads to make 34 strings with 52 beads on each string," said Miss Marsh.

"I think I'll buy a thousand," said Mary.

Would one thousand beads have been enough? To find out, we must multiply 52 by 34.

Multiplying by a number with two figures is something new. Your teacher will show you how to do this.

Note to the Teacher.—At this stage teach multiplication of a two-digit number by a two-digit multiplier.

Study the examples below until you think you can multiply in each one.

A

43
23
129
86
989

B

41
53
123
205
2173

C

62
14
248
62
868

D

72
23
216
144
1656

Copy the four examples above without the work, close your book, and multiply. Then open your book, and correct any mistakes you have made.

Each of the examples below is partly worked. Where should the next figure be written in working each example?

1.	2.	3.	4.	5.
52	82	71	90	42
13	34	42	73	21
156	328	142	270	42

Copy the above examples, and finish them.

Now find the answers for the examples below.

21	73	54	81	33	40	31	92
47	23	12	58	21	68	28	13

On the next page are some examples in which you must *carry* as you multiply. Study them until you know how to do them. Then copy them without the work, close your book, and find the answers. When you have finished, compare your work with that in the book. Correct any mistakes you make.

A

37
19
333
37
703

B

36
37
252
108
1332

C

34
56
204
170
1904

D

76
48
608
304
3648

E

59
17
413
59
1003

What figures did you carry when you multiplied in the examples above? Multiply these examples:

54	38	44	57	23	30	68	99
42	34	62	82	51	76	23	96

$10 \times 29 = ?$ $10 \times 14 = ?$

$10 \times 81 = ?$ $10 \times 99 = ?$

Can you tell a short way to multiply a number by 10?

Study examples F and G. Example G shows a short way to multiply 34 by 20.

F

34
20
00
68
680

G

34
20
680

H

58
60

Copy example H, and multiply.

To multiply the short way, we first write — in the answer under the 0.

We next multiply 58 by —.

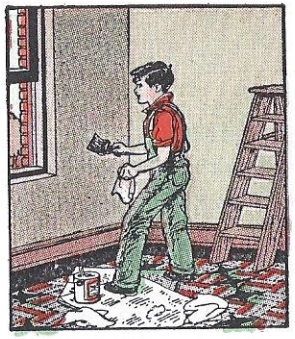
What is the correct answer?

Multiply the short way below whenever you can.

17	68	56	26	67	46	90
30	70	86	10	90	74	40

50×16	20×86	15×27	60×60	80×64
10×94	53×34	30×79	90×39	29×55

Bobby's and Betty's Rooms



1. Bobby's room is 10 feet wide and 12 feet long. Betty's is 9 feet wide and 14 feet long. Bobby's room is how much wider than Betty's? How much shorter than Betty's?

Problem 1 and problem 2 ask two questions each.

Problem 1 gives all the numbers that you need to answer both questions. In problem 2 you must use the answer to the first question in finding the answer to the second question.

2. Betty and her mother bought 6 yards of cloth for a bedspread and 3 yards of the same material for the dressing-table. They paid $4.86 for all this cloth. How many yards did they buy? How much did it cost a yard?

To answer the second question in problem 2, you divide $4.86 by__. The number that you divide by is the answer to the first question in the problem.

3. Mother paid 80¢ for the paper for the ceiling in Betty's room. She bought 4 rolls of paper for the walls at 45¢ a roll. How much did all the paper for the walls cost? How much did the paper for the walls and ceiling together cost?

Why can you not answer the second question in problem 3 until you know the answer to the first?

4. Bobby and his father used 2 large cans of paint for the walls of Bobby's room. This paint cost 63¢ a can. For the ceiling they used 1 small can of paint that cost 49¢. How much did the paint for the walls cost? How much did all this paint cost?

5. Mother spent 75¢ for a picture for Bobby's room and 85¢ for one for Betty's room. She then spent 65¢ to have each picture framed. How much did she spend in all for Bobby's picture? How much did she spend in all for Betty's picture?

6. Bobby's father had given him $20 at Christmas time to buy some things for his room. Bobby bought a desk for $12.35 and a chair for $4.50. How much did he spend for both the desk and the chair? How much did he have left from the $20?

Learning through Practice

1. Add; then check your work:

	291	419	82		448	$3.55
$70.30	59	732	71	9626	927	.08
4.67	485	916	9	98	356	6.54
68.72	72	521	53	287	29	2.38

2. Subtract; then check your work:

746	9150	10174	6575	$5.03	8713	14560
299	3411	4646	1900	.27	5906	8741

3. Divide; then check your work:

$8\overline{)764}$	$6\overline{)1464}$	$4\overline{)7728}$	$9\overline{)6651}$	$2\overline{)\$21.91}$

Measuring Weight

One morning Bobby's father drove him to school. On the way, they stopped to order 2 tons of coal.

"Two tons must be a lot of coal," said Bobby.

"One ton is 2000 pounds," said his father. "Twelve men my size would weigh about a ton. Our car weighs just a little more than 1 ton."

"What is weighed in ounces?" asked Bobby.

"Anything of which we wish to buy only a little," replied his father. "Mustard, for example."

Learn the measures below.

16 ounces = 1 pound	2000 pounds = 1 ton

In arithmetic we often write words like ounce, pound, and ton in a shorter way. The short way is an **abbreviation.** Learn the abbreviations at the left.

oz.— ounce or ounces
lb.— pound or pounds
T. — ton or tons

1. Should you use ounces, pounds, or tons in weighing pepper? sugar? a load of hay?

2. Copy the following, using whole words instead of abbreviations: 10 oz.; 78 lb.; $\frac{1}{2}$ T.

3. To change 25 lb. 12 oz. to ounces, first change 25 lb. to ounces; then add 12 oz. Do it like this:

25 × 16 oz. = ____ oz. ____ oz. + 12 oz. = ____ oz.

4. 7 lb. 8 oz. = ____ oz. **5.** 9 T. = ____ lb.

Measuring Distances

One Saturday morning, Sam and Joe went for a hike with Sam's father.

"How long will it take us to walk from here to the old mill?" asked Joe.

"The sign says it is 1 mile," answered Mr. Jones. "It will take us about 20 minutes."

"Just how long is a mile?" asked Sam.

"If I took steps a yard long," said his father, "I should take 1760 steps in walking one mile."

Can you tell from what Mr. Jones said, how many yards there are in 1 mile?

Since there are 1760 yards in 1 mile, multiply 1760 by 3 to find the number of feet in 1 mile. 3 × 1760 = 5280. There are 5280 feet in 1 mile.

Study the measures below until you can say them with your book closed.

12 inches = 1 foot	
3 feet = 1 yard	1760 yards = 1 mile
36 inches = 1 yard	5280 feet = 1 mile

Study the abbreviations below until you can write them with your book closed.

inch or inches—in.	yard or yards—yd.
foot or feet—ft.	mile or miles—mi.

"How high is that sign from the ground?" asked Sam, as they walked by.

"Two yards," said Joe.

"I think it should be measured in feet," Sam said.

1. Would it be best to use inches, feet, yards, or miles in measuring the length of your school-room? The distance you can walk in 1 hour? The length of your pencil?

2. Write the correct word for each of these abbreviations: ft., mi., yd., in.

3. Write the abbreviation for each of these words: miles, inch, feet, mile, inches, yard, foot, yards. Do not forget the period.

4. To change 6 ft. 4 in. to inches, you must first change 6 ft. to inches; then add 4 in.

6×12 in. $= 72$ in. 72 in. $+ 4$ in. $=$ ____ in.

5. To change 14 ft. to yards and feet, divide 14 by 3. Why? $14 \div 3 = 4$ and 2 remainder. The 4 is *yards;* the 2 is *feet.* 14 ft. $=$ 4 yd. 2 ft.

6. 2 mi. 60 yd. $=$ ____ yd.
7. 35 ft. $=$ ____ yd. ____ ft.
8. 9 mi. 75 ft. $=$ ____ ft.
9. 4 mi. $=$ ____ ft.
10. 15 ft. $=$ ____ in.
11. 65 yd. $=$ ____ ft.

Problems for Careful Readers

1. Miss Marsh ordered 12 sheets of drawing paper for each of the 37 pupils in her room. She received 500 sheets. How many sheets did she order? She received how many more than she ordered?

2. Mr. Jackson's truck weighs 3550 lb. when empty. On Monday he hauled on it a load of coal weighing 1 T. 375 lb. Which weighed more, the coal or the truck?

3. How many pounds did the truck and the coal together weigh?

4. Mr. Field received a load of coal weighing 1990 lb. Mr. May received a load weighing 2020 lb. Which load came nearer to weighing exactly one ton?

5. John is 4 ft. 10 in. tall. Joe is 60 in. tall. How many inches tall is John? How much taller is Joe than John?

6. When you divide \$10.68 by 9, is the remainder 6 *cents* or 6 *dollars*?

7. Jane lives 880 yd. east of the school, and Alice lives $\frac{1}{2}$ mi. north of the school. Does one girl live farther from the school than the other? If so, which girl?

8. Sue had \$6.75 left after spending \$.98 for gloves. How much did she have at first?

Note to the Teacher.—Before proceeding to the examples on the next page, teach the pupils to multiply a three-digit number by a two-digit multiplier.

Multiplying Larger Numbers

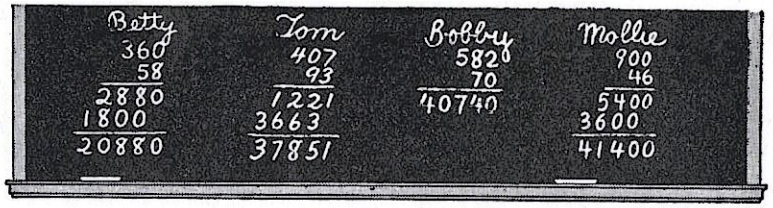
"Father, how many miles do you drive your ice-cream truck in a month?" asked Bill.

"I drive it 135 miles each trip," answered Father, "and I made 27 trips last month."

Bill wrote 135 and 27 on paper and multiplied to find out how far his father had driven last month.

Copy these examples, and multiply as Bill did:

153	267	89	462	135	648	97
65	37	53	29	80	41	69



The picture shows four multiplication examples with tricky zeros that four children worked on the blackboard. Copy the examples without the work, close your book, and multiply. When you have finished, compare your work with that in the picture. Correct any mistakes you make.

Now copy the examples below, and multiply.

240	406	90	286	600	68	950
58	64	37	95	16	82	70
703	45	200	173	505	640	700
59	53	28	47	90	75	19

Multiplication with Money

One day when Jim was helping in the store, Mr. Lake ordered 36 sacks of flour over the telephone. Each sack of flour was to cost $2.43.

What was to be the cost of all 36 sacks?

Example A shows how Jim found the answer.

How did he get the 1458? The 729? The 8748?

Notice where he put the decimal points and the dollar signs.

The flour was to cost $ ____.

A

$2.43
36
1458
729
$87.48

Remember: *When we multiply dollars and cents, the two figures at the right in the answer mean cents. We always put a decimal point before the figures that mean cents.*

Now look at example B.

$.95 means 95 ____.

We put the decimal point before the 80 in the answer to show that the 80 means ____.

We read the answer to example B, "79 ____ and 80 ____." Is this answer correct?

B

$.95
84
380
760
$79.80

Now multiply in the examples below.

$.99	$6.70	$6.34	$.80	$76.95	$4.00	$.28
83	57	60	24	9	15	70

49 × $5.72 36 × $.80 90 × $1.07 8 × $34.67

A Trip by Bus

Henry left home on Friday to make a two-weeks' visit with his cousins. He travelled by bus to his cousins' home.

1. At the ticket office he learned that his bus fare was $5.78 each way, or $10.40 for the round trip if he bought a round-trip ticket. How much would his fare have been to his cousins' home and back again if he had not bought a round-trip ticket?

2. Henry bought the round-trip ticket. How much did he save?

Remember that a round-trip ticket will take him to his cousins' home and back to his own home again.

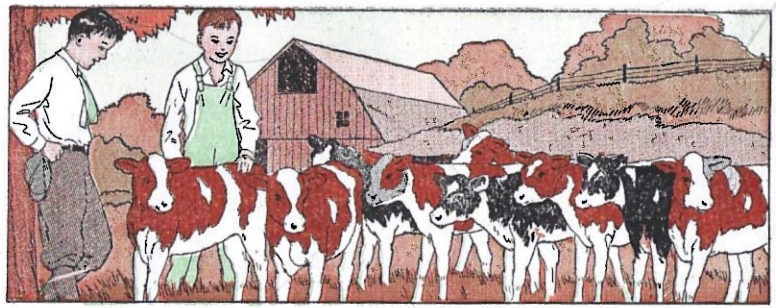
3. Henry needed 30¢ for lunch and 55¢ for dinner each way. How much did he need for meals on the way to his cousins' home? How much did he need for meals for the round trip?

4. How much money did he need for both fare and meals for the round trip?

5. The driver told Henry that the trip of 351 mi. would take 9 hours. That would be an average of how many miles an hour?

6. After lunch the driver bought 25 gallons of gasoline at 26¢ a gallon. How much did he pay for the gasoline he bought?

7. The driver told Henry that 23 persons had paid $17.70 each for their round-trip tickets. How much was paid for all these tickets?



Sight-Seeing on the Farm

Jim and Alice, the cousins that Henry visited, lived in the country. They showed Henry many interesting things on their farm.

Problem 1 below asks only one question, but you must find two answers.

1. "Father has 145 brown chickens and 260 white ones," said Alice, as she showed them to Henry. "He sold 75 of each kind this morning." How many of each of these two kinds of chickens did her father have before the sale?

After which answer in problem 1 should you write "brown chickens"? After which one should you write "white chickens"?

2. Jim showed Henry some little calves.

"I had 7 calves, and Alice had 2, before I traded 3 of mine for her pony," said Jim.

How many calves did Alice and Jim each have after the trade?

How many answers do you have for problem 2?

3. Jim said that one day his father sold 34 dozens of eggs at 23¢ a dozen. How much did he get for all these eggs?

4. Henry watched his uncle milk 9 cows. When his uncle had finished milking, he had 18 gallons of milk. What was the average number of gallons a cow?

5. The first day Henry was at the farm, Jim told him that Alice had 18 chickens and that he had 15. The next day their father gave each of them 12 more chickens. How many chickens did each child have then?

6. Two days later, Henry and Jim were looking at the chickens. They noticed that $\frac{1}{3}$ of Jim's chickens and $\frac{1}{2}$ of Alice's chickens were brown. How many brown chickens did each child have?

7. One day, Henry went with Uncle Tom on the tractor. Before they started the tractor, they found that it had only 3 gallons of gasoline in the tank. There was a large tank in the yard with 25 gallons in it; so Uncle Tom put 12 more gallons into the tractor from his large tank. How many gallons of gasoline were there in each of the two tanks then?

8. Uncle Tom had a large orchard. There were 18 rows of trees with 15 apple trees and 12 cherry trees in each row. How many apple trees and how many cherry trees were there in the orchard?

9. How many trees of both kinds were there in the orchard?

The Library Club

If you should multiply to get the answer to any of the problems below, multiply by the number that will make your work easier. Be sure to write the correct name beside your answer.

1. Alice goes to a big city school. The school has a large library, and the children have a Library Club. For a meeting of the club, Alice took 4 cookies for each of the 56 members. How many cookies did Alice take?

2. Alice took, also, 3 olives for each person. How many olives did she take?

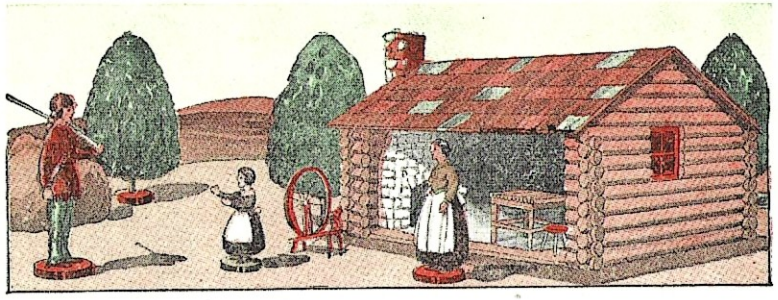
3. Each of the 56 persons who came to the meeting gave 10¢ to buy new books for the library. How much money did they give altogether?

4. Last year the Library Club bought 300 books at an average cost of $1.14. How much did they spend for all these books?

Think of the ***average cost*** *as the cost of one book if all the books had cost the same.*

5. One year ago the library had 3257 books. Since then it has received the following books: 91 from friends, 300 from the Library Club, 564 from the school. If no books have been lost or worn out, how many has the library now?

6. The Library Club wanted money to buy books. So the members sold tickets for a play at 50¢ each. How much did the club get in all for 268 tickets?



Pioneer Days

The children in Miss Marsh's room were studying the way people lived in pioneer days.

1. The boys made a log house. They used corn-stalks for logs. They used 9 pieces for the back wall and 28 pieces for the end walls. The front was left open so that the class could see into the house. How many pieces of corn-stalk did the boys use for all three walls?

2. The girls dressed three dolls as the pioneers dressed. They paid 35¢ for each doll and 20¢ for the materials for the clothes for each one. How much did the three dolls cost? How much did the material for their clothes cost?

3. How much did the girls spend in buying and dressing all three dolls?

4. Alice brought a girl's dress that had been worn in pioneer days. She measured the distance around the bottom of the skirt with a foot ruler. It took 15 lengths of the ruler to go around the dress. How many inches around was the skirt?

5. John brought to school one-half dozen old spoons that were made in 1669. How old are they now?

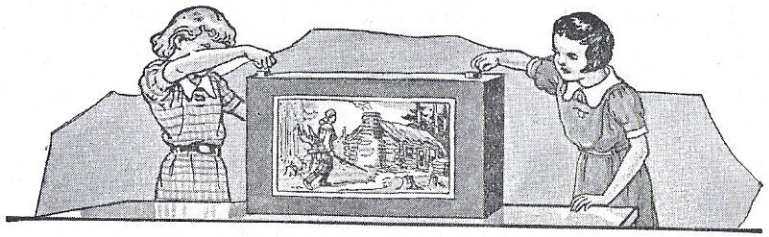
6. Joe is making a small loom for weaving. He will use 4 pieces of wood. A large piece 24 in. long will make the two pieces for the sides. It will take a piece 16 in. long to make the two ends. How many inches of wood does Joe need in all for the loom?

7. The girls are weaving a rug 18 inches long for the house. They can weave about 3 inches an hour. About how many hours will it take them to weave the rug?

8. Betty has agreed to weave $\frac{1}{3}$ of the rug. Two of her friends are to finish it. How long will it take Betty to weave her share of the rug?

Quick Drill

	A	B	C	D	E	F
1.	57 ×9	638 −313	9+4+8	3.20 p.m. means	5 into 515	50−35
2.	205 +694	17 qt.+ 7 qt.= ..... gal.	8)968	346 −95	8 dimes = ...¢	304 ×3
3.	112÷7	474 +285	85¢= ....nickels	8×72	85 −69	154 +128
4.	5 doz. = ...	50 ×5	172 −85	2)81	30+75	10.08 a.m. means .....



A Home-Made Movie

When the children in Miss Marsh's room had finished reading about pioneer days, they made movies of what they had learned. They made them by pasting pictures on very long rolls of paper.

1. They used 15 pictures for each movie. Each picture took 18 in. of a roll of paper. How many inches of paper did all 15 pictures take?

2. They cut the roll of paper for each movie long enough so that they had 9 in. at each end to use in fastening it to rollers. How many inches of paper did they use for fastening both ends of each movie? How many inches long was the roll of paper for each movie?

3. Was the roll of paper for each movie 18 ft., 24 ft., or 30 ft. long? How many yards long was each roll?

4. The children made 6 movies. How many yards of paper did all 6 movies take?

5. If they had used cloth for the movies, it would have cost 9¢ a yard. How much would enough cloth for all 6 movies have cost?

6. The children bought all the paper they needed for 36¢. How much did they save by using paper instead of cloth?

7. How many pictures did they use for all 6 movies?

8. The children collected pictures from magazines at home. They collected the following pictures: 15 showing pioneer homes, 13 showing clothes, 9 showing tools, and 35 showing furniture. How many pictures did they collect?

9. The children drew all the other pictures that they used for the movies. How many pictures did they draw?

10. It cost the children 15¢ to make the frame for showing the pictures, and 28¢ for curtains to cover the rollers. How much did the paper, frame, and curtains cost altogether?

Multiplication Review

If you make mistakes in the examples below, review the work in multiplication in this chapter.

439	608	76	\$5.70	625	899	906
86	79	65	83	90	70	25
50	\$6.17	964	800	503	989	\$.47
94	78	50	16	89	46	50
900	534	\$3.02	89	638	500	783
67	63	90	39	48	56	83

Dry Measures

Mrs. Woods sent Mary to the store to buy a peck of potatoes. Instead of using the peck measure, the clerk weighed the potatoes.

"Why don't you use the measure?" asked Mary.

"It's hard to know when the measure is exactly full," he answered. "So in many stores all foods like potatoes, onions, apples, and tomatoes are weighed instead of measured."

"Is the quart that we use in measuring onions the same size as the quart we use in measuring milk?" asked Mary.

"Yes," answered the clerk, "the quart for onions is the same size as the one for milk."

Pint, quart, and gallon are **liquid measures.** Why do we call them liquid measures?

Quart, peck, and bushel are **dry measures.** Why do we call them dry measures?

8 quarts = 1 peck
4 pecks = 1 bushel

Study the table at the left until you can say it without looking at the book.

Learn these new abbreviations:

pk.—peck or pecks	bu.—bushel or bushels

1. Tell whether you would use dry measure or liquid measure in measuring each of the following:

water apples oats beans gasoline
paint milk corn nuts onions

2. 2 pk. = __ qt.
3. 3 bu. = __ pk.
4. ½ pk. = __ qt.
5. 8 pk. = __ bu.
6. 1 bu. = __ qt.
7. 2 bu. 3 pk. = __ pk.
8. 26 pk. = __ bu. __ pk.
9. 15 gal. = __ qt.
10. 15 pk. = __ qt.
11. 10 qt. = __ gal. __ qt.

12. Joe had a bushel of chestnuts. He gave a peck of them away. How many pecks had he left?

Learning through Practice

1. Add:

	227		70	$79.76	567
4427	52	6919	76	.94	109
8535	183	628	84	50.82	313
7568	836	8417	88	2.05	843

2. Subtract:

10634	$2.78	81858	4900	58320	$312.43
7815	2.69	76966	58	28702	98.48

3. Divide:

7)553	5)$95.30	9)5372	8)4056	6)381
2)9630	8)271	4)3404	7)6512	9)$57.78

Roman Numerals

Hundreds of years ago, people called Romans wrote their numbers with letters instead of with the figures that we use. They wrote all the numbers from 1 to 30 by using the letters I, V, and X. The 10 books in the picture above are numbered the way that the Romans would have used.

We call such numbers **Roman numerals.**

We sometimes use a Roman numeral to number each book in a set of books, to number the chapters in books, and to number the hours on clocks.

The Romans used the I to mean 1, the V to mean 5, and the X to mean 10.

Look at the numbers on the books in the picture to see how these three letters are used to write the numbers from 1 to 10.

I —1	VI — 6
II —2	VII — 7
III—3	VIII— 8
IV —4	IX — 9
V —5	X —10

Now study the Roman numerals in the table at the left until you can write them all in order without looking at your book.

We can get the Roman numerals from 11 to 20 by writing an X before the numerals in the table at the bottom of page 100. If we write two X's before them, we have the Roman numerals from 21 to 30. The table below shows these numerals.

Study the Roman numerals in the table below until you can write them in order.

XI —11	XVI —16	XXI —21	XXVI —26
XII —12	XVII —17	XXII —22	XXVII —27
XIII—13	XVIII—18	XXIII—23	XXVIII—28
XIV—14	XIX —19	XXIV—24	XXIX —29
XV —15	XX —20	XXV —25	XXX —30

1. Write all the Roman numerals from 1 to 30.

2. Copy the Roman numerals below. Then write beside each one the number that it means.

XII	XIV	XXVII	XXII	XVIII
XV	XXV	XXIV	XIX	XXIX
XVI	XX	XXIII	XXX	XI

Multiplication Practice

416	508	682	900	$7.43	204	69
94	83	70	57	60	59	48

56 × 870 39 × $5.39 92 × 306 40 × 43

Extra Practice for Those Who Need It

85 × 500 74 × 133 60 × 257 463 × $8.09

80 × 268 285 × 58 34 × $.57 907 × 22

Zeros and Remainders in Division Answers

Miss Bell divided 1203 tablets equally among the 6 rooms at the Lake Schools. How many tablets did Miss Bell give each room? How many tablets were left over?

A

```
  200
6)1203
  12
   0
   0
   3
   0
   3
```

Example A shows how to divide to find the answers.

After we get the 2 in the answer and subtract 12 from 12, we bring down the 0 from 1203.

6 will not go into 0; so we write 0 in the answer.

The next figure that we bring down is the 3. Why do we write another 0 in the answer?

The answer is 200 and 3 remainder. This means that Miss Bell gave 200 tablets to each room, and there were 3 tablets left over.

B

```
  200
6)1203
  12
   03
```

Now study example B.

We bring down the zero and write 0 in the answer. Then we bring down the 3 and write it beside the 0.

We write another 0 in the answer, because 6 will not go into 3.

Remember: *Always write a figure in the answer for each figure you bring down.*

Study the four examples at the top of page 103 until you can work them. Then copy the examples without the work, close your book, and divide.

C

```
  400
8)3207
  32
   07
```

D

```
   50
5)254
  25
   4
```

E

```
  100
7)704
  7
  04
```

F

```
  900
9)8101
  81
   01
```

Be careful of the zeros as you divide in each of the examples below.

9)4148	4)3203	7)$86.24	8)7361	9)4077
6)50404	5)4604	8)679	9)31518	7)4906
3)2835	9)$63.07	8)5032	4)297	6)5882

Extra Practice for Those Who Need It

5)2002	7)3851	9)6531	6)$4.14	8)11204

Addition Practice

156			38			
28	576	54	851		403	
663	1407	34	413	$27.73	69	587
202	5729	39	667	.98	500	969
549	349	41	6	75.58	28	582

	25		57			28
$7.91	58		65	$.23		19
.08	3		74	.41	3031	48
2.60	31	6138	65	.45	589	59
.08	16	4599	76	.08	4205	69
7.52	55	2633	63	.36	7676	38

Hobbies

1. Jane's hobby is collecting picture post-cards. One day she decided to mount her cards on large sheets of black paper. How many sheets did she need for her 124 cards, in order to mount 4 cards on each sheet?

2. Five children in Miss Marsh's room made a hobby of pressing and mounting leaves for the school museum. They pressed and mounted 175 leaves in all. This was an average of how many leaves for each child?

3. The girls carved 52 animals out of soap for the school zoo. They carved 2 animals out of each cake of soap. How many cakes of soap did they use?

4. Joe has mounted 24 stamps from each of 9 countries in his stamp-book. How many stamps has he mounted for all these countries?

5. He mounted 8 stamps on each page. How many pages did he use for each country?

6. How many pages did he use for all the 9 countries?

7. The three Jones boys share equally in the cost of a garden which they plant each spring. Last spring the total cost was $4.65. What was the amount of each boy's share?

8. The garden earned $3.50 for each Jones boy last year. How much did the garden earn for all three boys?

Problems for Careful Readers

1. John spent one hour and 20 minutes skating, and Frank spent 80 minutes. Which boy spent more time skating? How do you know?

2. Mary's mother spent a total of $8.16 for clothes for Mary. One-half of this amount was for a dress. How much did the dress cost? How much did she spend for other things?

3. Bobby will be 50 years old in 1976. When was he born?

4. Was the year in which he was born a leap year?

5. Which is more, $\frac{1}{4}$ of a dozen or $\frac{1}{3}$ of a dozen? How do you know?

6. During February, 1937, Alice Jones saved an average of 2¢ a day. Her sister May saved an average of 10¢ a week. Which girl saved the more money? How much more?

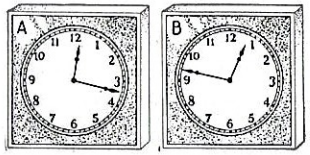
7. Betty bought $1.17 worth of groceries at Fair's Store. She gave Mr. Fair two one-dollar bills to pay for them. He gave her 3 pennies, 1 nickel, 1 quarter, and 5 dimes in change. Betty thought she would receive 3 pennies, 1 nickel, 1 quarter, and 1 half-dollar in change. Did Mr. Fair give her the correct change?

8. Would the change that Betty thought she would receive have been correct? Can you think of a reason why Mr. Fair gave Betty the coins he did?

Can You Open the Door?

This page is the door to a new chapter. You can open the door if you can do the work below.

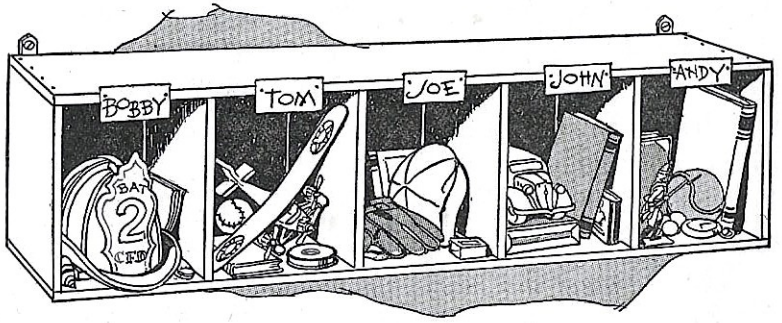
1. Write *one-fourth* in figures.
2. 2 tons = ____ pounds.
3. There will be __ days in 1948.
4. 1865 was __ years ago.
5. Write the abbreviation for each of the following: *ton*, *mile*, *ounces*, *inches*, *pound*.
6. Write *sixty thousand one hundred* in figures.
7. 84 quarters = __ dollars.
8. 12 years, 5 months = __ months.
9. $\frac{1}{3}$ of \$64.50 is \$____.
10. Clock A shows what time?
11. Clock B shows what time?
12. Which clock shows 12.47?



13. 2 miles = ____ feet.
14. How long is it from 7 a.m. to 8 p.m.?
15. 77 ft. = __ yd. __ ft.
16. Are *twelve forty-seven* and *thirteen minutes to one* the same on the clock? Look at clock B.
17. Where should a comma be placed in 12345?
18. When you divide \$5.66 by 5, is your remainder 1¢ or \$1?
19. What 3 coins could you give in change for a half-dollar for a sale of 29¢?
20. 30×47 **21.** $28 \times \$.29$ **22.** $62 \times \$12.40$

CHAPTER 5

USING FRACTIONS



Making the Hut Ready for Summer

When spring came, Bobby, Tom, Joe, John, and Andy cleaned the hut they had built the year before and made it ready for the summer.

Andy found a long, narrow box, which he divided into five equal parts by nailing boards inside it. Each boy marked one part with his own name, and used it as a place to store his books and toys.

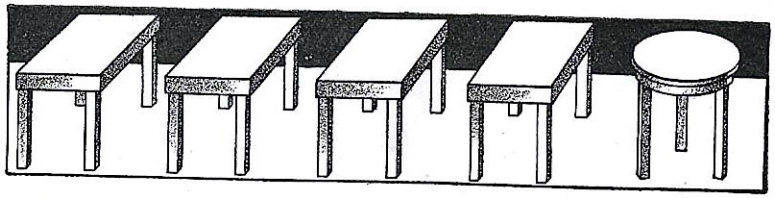
Bobby had one of the 5 equal parts, or **one-fifth** of the whole box. The figures at the right show how to write *one-fifth*.

$\frac{1}{5}$

Tom's part was also one- ____ of the whole box.

Numbers like $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, and $\frac{1}{5}$, are called **fractions.**

What fraction tells how much of the box Andy had for his toys and books?



Each of the boys brought a stool to the hut. Four of these stools were alike. But Joe's stool, which he had found in the cellar at home, was different from the others.

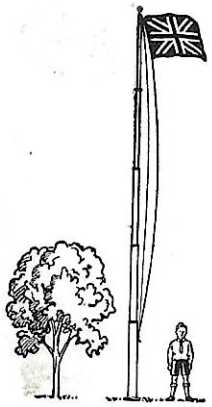
Which stool in the picture is Joe's? How many legs has it?

What fraction of all the stools has three legs?

$\frac{1}{5}$ of 5 stools is 1 stool.

To find $\frac{1}{5}$ of a number, divide the number by 5.

While the boys were cleaning the hut, Betty gathered some flowers. She had 35 flowers, which she made into 5 equal bunches. She put one of these bunches in the hut.



One-____ of the 35 flowers were in each bunch.

How many flowers did she put in each bunch?

7 flowers are what fraction of 35 flowers?

Joe's father helped the boys put up a flag-pole in front of their hut. When they had finished putting up the pole, Bobby's uncle gave them a flag.

The part of the pole above the ground is made of 5 pieces of pipe, all of the same length.

Each piece is $\frac{1}{5}$ of the pole.

How can you tell by looking at the picture that Joe is $\frac{1}{5}$ as tall as the flag-pole?

The pole is __ times as tall as Joe.

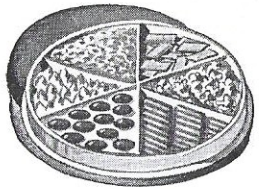
Joe is 5 ft. tall. How tall is the pole?

Is Joe $\frac{1}{2}$, $\frac{1}{3}$, or $\frac{1}{4}$ as tall as the tree?

Find the answers to the following:

1. $\frac{1}{2}$ of 16 ft. =
2. $\frac{1}{4}$ of 24 lb. =
3. $\frac{1}{3}$ of 21 min. =
4. $\frac{1}{5}$ of 30 gal. =
5. $\frac{1}{4}$ of 168 boys =
6. $\frac{1}{5}$ of 295 eggs =
7. $\frac{1}{2}$ of 138 birds =
8. $\frac{1}{3}$ of 87¢ =

Using Sixths

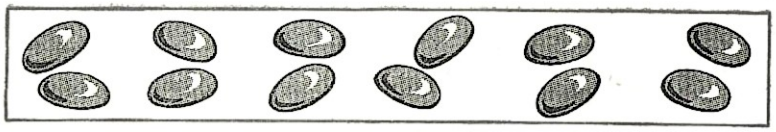


On Betty's birthday her mother asked five of Betty's friends to a party. These friends brought her the box of chocolates shown in the picture. The box was divided into 6 equal parts, each of which had a different kind of candy. Each part was **one-sixth** of the box.

We write *one-sixth* in figures as shown at the right.

$\frac{1}{6}$

If Betty had given each of the girls all the candy in one part of the box, what fraction of the whole box of candy would each have received?



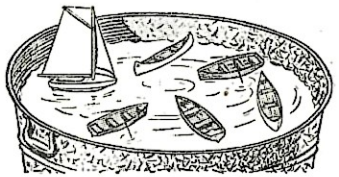
Betty divided 12 pieces of the candy equally among herself and 5 friends. The picture shows how she did this. Into how many groups did she divide the 12 pieces?

How many pieces did she have in each group?

Each group of 2 pieces is what fraction of all 12 pieces?

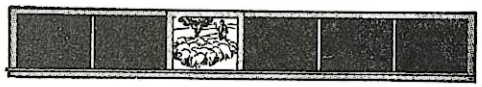
$\frac{1}{6}$ of 12 pieces of candy is __ pieces of candy.

To find $\frac{1}{6}$ of a number, divide the number by 6.



The picture at the left shows some toy boats that Betty's little cousin gave her. What fraction of the boats are sail-boats?

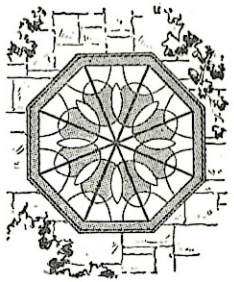
At the party, the girls talked about the new picture that their room had bought for the school. The picture is shown at the right, standing along the blackboard ledge.



This blackboard has 6 equal parts. How many parts does the picture cover? It is one-____ as large as the blackboard. The blackboard is __ times as large as the picture.

Find $\frac{1}{6}$ of 54 lb.; of 126 yd.; of 102 in.; of 156 T.

Using Eighths

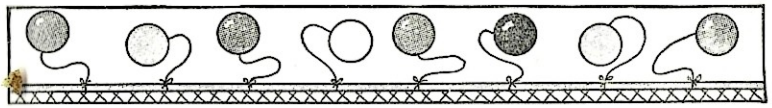


One day Miss Marsh asked the children to look for things showing *eighths*. Below are some of the things they saw during the noon hour.

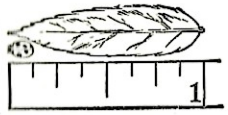
John saw the church window shown at the right. This window is divided into how many panes of the same size? Each pane is **one-eighth** of the whole window. We write *one-eighth* as shown at the right.

$\frac{1}{8}$

Mary saw a man who was selling balloons. He had tied some of them to a wire fence. The picture below shows the balloons tied to the fence.



How many balloons are there? What fraction tells how many of the balloons are white?

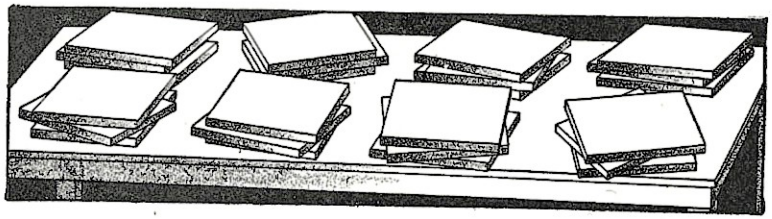


Bill brought to school a leaf with a ladybug on it. The picture shows how he laid them beside a rule to measure them.

Only 1 inch of the ruler is shown. The leaf is 1 inch long. The ladybug is only $\frac{1}{8}$ inch long.

The ladybug is __ as long as the leaf.

The leaf is __ times as long as the ladybug.



As Sue came into the school building, she saw some packages of paper in piles on a table in the hall. There was a pile for each room, as shown in the picture.

How many packages of paper were there in all?

How many packages were in each pile? How many piles were there? What fraction of all the packages of paper was in each pile?

$\frac{1}{8}$ of 24 packages is __ packages.

To find $\frac{1}{8}$ of a number, divide the number by 8.

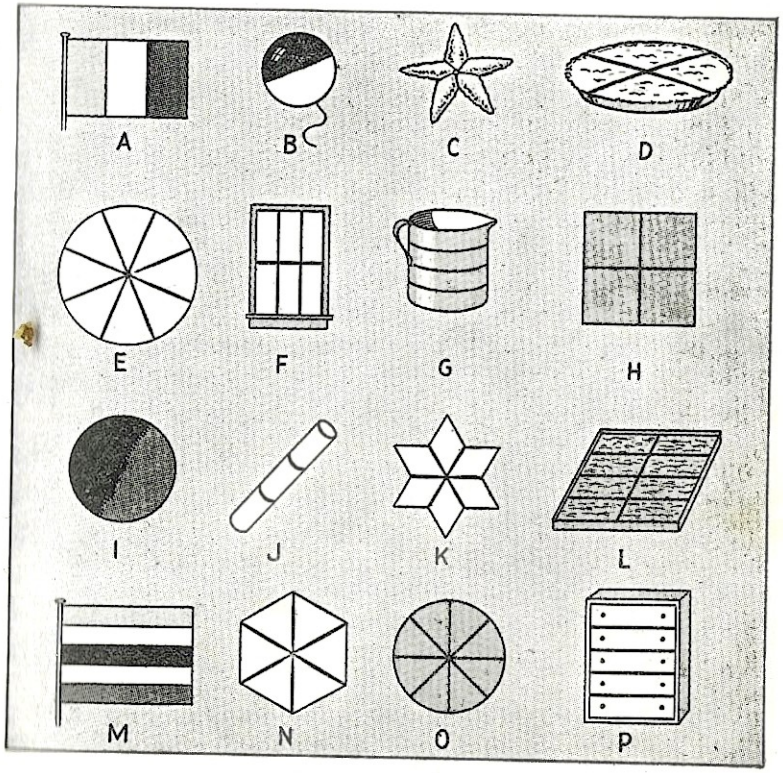
Find $\frac{1}{8}$ of 72¢; of 168 lb.; of 184 oz.; of 272 ft.

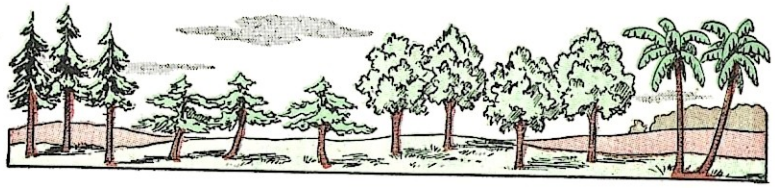
Using Fractions

1. Mary's baby sister is $\frac{1}{4}$ as heavy as Mary. Mary weighs how many times as much as her sister?
2. Mary weighs 76 lb. Her sister weighs __ lb.
3. Bill's kite-string is 5 times as long as Tom's. Tom's kite-string is one-____ as long as Bill's.
4. $\frac{1}{8}$ of 224 gal. =
5. $\frac{1}{4}$ of \$3.88 =
6. $\frac{1}{6}$ of 402 ft. =
7. $\frac{1}{2}$ of 952 lb. =
8. $\frac{1}{5}$ of 5020 qt. =
9. $\frac{1}{6}$ of 3936 mi. =
10. $\frac{1}{3}$ of 9324 doz. =
11. $\frac{1}{8}$ of 5352 T. =
12. $\frac{1}{5}$ of \$46.80 =
13. $\frac{1}{4}$ of 1352 oz. =

Finding Fractions

1. Which pictures below show halves?
2. Which show thirds?
3. Which show fourths?
4. Which show fifths?
5. Which show sixths?
6. Which show eighths?
7. Make a list of things that you can find around your home and in your school that show halves, thirds, fourths, fifths, sixths, and eighths.

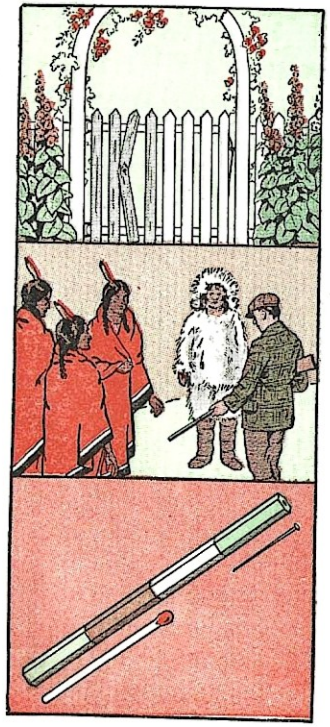




8. How many trees are in the picture at the top of this page?

9. $\frac{1}{6}$ of 12 is ___. What fraction of the trees in the picture are palm trees?

10. $\frac{1}{4}$ of 12 is ___. The 3 tall pines are what fraction of all the trees in the picture?



11. The gate in this picture has eight pickets. The broken picket is what fraction of all the pickets?

12. $\frac{1}{2}$ of 8 is ___. What fraction tells how many of the pickets are white?

13. How many men are in the picture at the left?

14. What fraction of the men is the hunter?

15. What fraction of the men is the Eskimo?

16. Is the match $\frac{1}{2}$, $\frac{1}{3}$, or $\frac{1}{4}$ as long as the pencil in this picture?

17. Is the pin $\frac{1}{2}$, $\frac{1}{4}$, or $\frac{1}{8}$ as long as the pencil?

The Food Sale

The girls of the Ryerson School had a food sale to raise money to buy a flag for the school.

1. At the sale Ellen sold 3 dozen cookies at 15¢ a dozen and 1 cake for 40¢. How much did she receive for the cookies? How much did she receive for the cookies and the cake?

Problem 1 asks two questions, and you must know the answer to the first question before you can answer the second question.

Problem 2 below is just like problem 1, except that it asks only one question. Before you can answer it, you must multiply 15¢ by 3 to find how much Ellen received for the cookies. Then you must add 45¢, the price of the cookies, and 40¢, the price of the cake.

2. At the sale Ellen sold 3 dozen cookies at 15¢ a dozen and 1 cake for 40¢. How much did she receive for the cookies and the cake?

You had to do two things to answer the one question; so we say that problem 2 has ***two steps.***

What did you do in the first step to find how much Ellen received for all the cookies she sold? What did you do in the second step to find how much she received for both the cookies and the cake?

Problem 3 has two steps. In the first step you must find out how much the woman paid for both the cake and the chicken.

3. One woman bought a fried chicken for $1.25, and a cake for 55¢. She gave Mary a five-dollar bill to pay for them. How much money should Mary have given her in change?

Ask yourself these questions to help you think about problems with two steps:

1. What must I find out in the first step?
2. Should I add, subtract, multiply, or divide?
3. What numbers must I use?
4. What must I find out in the second step?
5. Should I add, subtract, multiply, or divide?
6. What numbers must I use?

4. Jane sold a woman 3 pints of orangeade at 5¢ a pint, and a glass of jelly for 25¢. How much did Jane receive for these things?

5. Mrs. Fair bought a pie for 35¢. Then she saw a banana cake marked "75¢." She bought $\frac{1}{3}$ of this cake. How much did she pay in all for the pie and one-third of the cake?

6. Betty was selling candy marked "60¢ a lb." What should she have charged for $\frac{1}{4}$ of a pound?

7. The girls put some of this candy in little bags to sell. They put 2 oz. in each bag and sold it for 10¢. How much should they have received for a pound of the candy sold in little bags?

The first step in working problem 7 is to find out how many bags they could make from 1 pound.

8. Ellen worked at the sale from 9 a. m. to 1 p. m. How many hours did she work?

9. Jane worked from 9 a. m. until noon, and from 1 p. m. until 3 p. m. How many hours did she work?

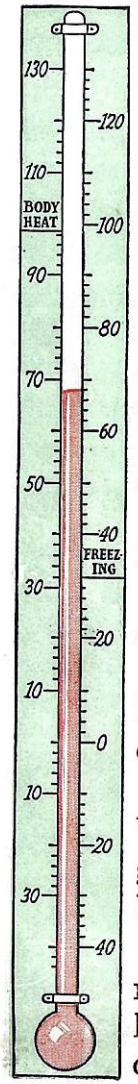
10. When the sale began, each girl had $2.25 in change. When the sale was over, Jane had $9.75, and Ellen had $8.85. How much money did each girl take in during the sale?

Quick Drill

	A	B	C	D	E	F
1.	4 into 2896	72 ×9	$\frac{1}{8}$ of 96	68 − 24	76 −27	6 wk. = ... da.
2.	493 +207	8)408	4 × 85	809 −746	$\frac{6}{8} = \frac{?}{4}$	8 + 9 + 6
3.	71 ×3	A square has ..... sides	91 − 72	XIV means	161 +219	$\frac{1}{2}$ of 870
4.	5 pk. + 7 pk. = ... bu.	125 −84	25 − 17	345 ×2	7)2114	84 − 26

Note to the Teacher.—Be sure to teach the new abbreviations on this page.

Reading the Thermometer



The picture at the left shows the kind of **thermometer** that we use when we wish to know how warm or how cold the air around us is. We say that it shows us the **temperature.**

We use thermometers to tell, also, the temperature of the body, of ovens, of water, milk, and many other things.

The thermometer in the picture shows a temperature of **68 degrees.** Each mark on this thermometer means 2 degrees.

The red colour stops at 4 marks, or 8 degrees, above the 60-degree mark.

Another way to write *68 degrees* is shown at the right.

68°

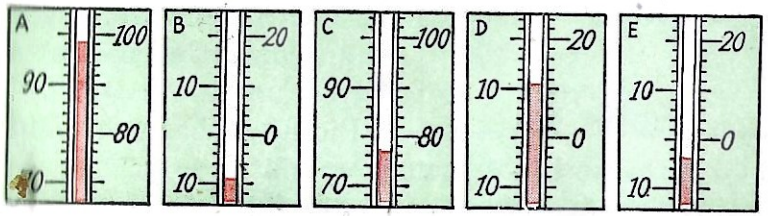
Water freezes at 32°. The temperature of the body should be about 98°.

Find the 32° mark on the thermometer. Find the 98° mark. What is the difference between the two temperatures?

Find zero degrees on the thermometer. Whenever the liquid in the thermometer goes below 0°, we say the temperature is **below zero.**

68° is a good temperature for schoolrooms. How far is this above zero? About how far is this below the temperature of your body?

1. How much warmer is 120° than 32°?
2. How much colder is 10° than 45°?
3. One day during the winter, the temperature was 0° at 7 a.m. At 12.00 noon it was 30°. How much did the temperature rise during these 5 hours?
4. At 6 p.m. on that same day the temperature was 15°. How much did it drop during the afternoon?
5. Parts of five different thermometers are shown below. What temperature does each thermometer show? Notice that thermometer B shows __° below zero.



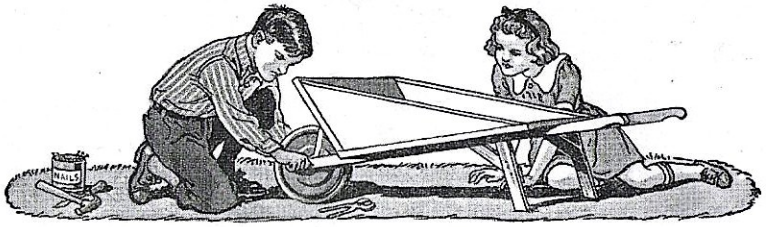
Learning through Practice

1. Add:

	69		791	60	312	$18.85
493	88	$16.37	6	553	139	.50
380	19	5.19	624	361	288	45.84
37	38	49.21	606	58	786	3.90

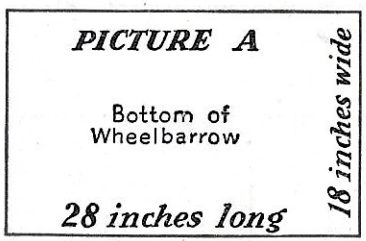
2. Multiply:

97	5009	$6.40	228	10076	$35.38	308
63	78	46	59	7	80	192



Rectangles and Squares

Andy made a wheelbarrow to use when gardening time came. He made it from some plans that he found in a book.



The book told him to make the bottom of the wheelbarrow in the shape of a **rectangle**, as shown in picture A.

Picture A has 4 straight sides. It also has **4 square corners** like the ones shown at the right.

*A **rectangle** has 4 straight sides and 4 square corners.*

How many inches *long* was the bottom to be?

How many inches *wide* was it to be?

We say that this part of the wheelbarrow was to be 28 inches in *length* and 18 inches in *width.*

Because the bottom of the wheelbarrow is a rectangle, we say it is *rectangular* in shape.

Draw on your paper a rectangle with a length of 3 inches and a width of $1\frac{1}{2}$ inches.

The book told Andy to make the front end of the wheelbarrow in the shape of a **square,** as shown in picture B.

Picture B is also a rectangle because it has 4 straight sides and 4 square corners. It is different from picture A because all its sides are the same length. We say the sides are equal.

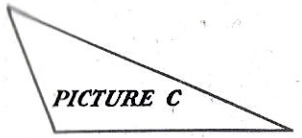
*A rectangle whose sides are equal is a **square.***

How long was the front end of the wheelbarrow to be? How wide was it to be?

We say it was to be *18 inches square.*

In what two ways is a square like other rectangles? In what way is it different?

Draw a two-inch square on your paper.

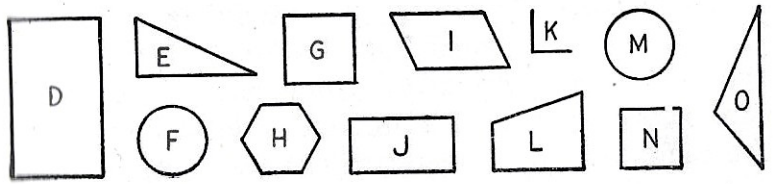


Picture C shows the shape of the side-boards for the wheelbarrow. How many sides has picture C?

Picture C is a **triangle** because it has 3 sides.

What part of the wheelbarrow is a **circle?**

Which pictures below are rectangles? Which are squares? Which are triangles? Which are circles?



The Summer Camp

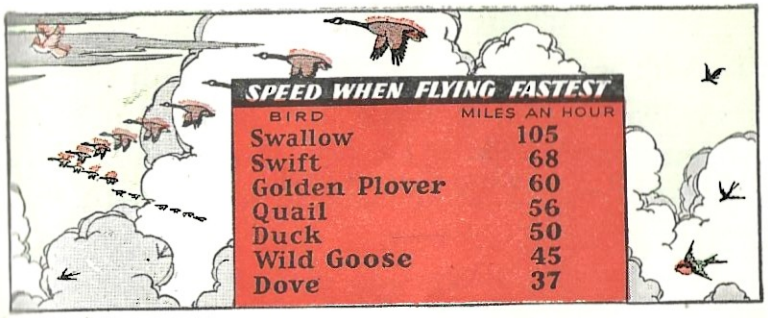
1. Sue and 7 friends went to a girls' camp for two weeks. When they got to the camp, they found 18 girls and 4 leaders already there. How many were there after Sue and her friends got there?

2. Each girl chose some work to do at camp. One-half of the girls chose weaving. How many girls chose weaving?

3. Four of the other girls chose basket-making, 6 chose sewing, and the others chose cooking. How many chose cooking?

4. One day 19 of the girls picked a total of 7 quarts of blueberries for Visitors' Day. Each quart served 6 persons. How many persons did all 7 quarts serve?

5. One day Ann kept the temperature chart. The thermometer read 78° at 7 a.m., 92° at noon, and 60° at 7 p.m. How much had the temperature risen between 7 a.m. and noon? What was the difference in temperatures at noon and 7 p.m.?



Flying Birds

The picture shows how far some birds could go in one hour if they should fly at their fastest speed.

1. Birds often fly for 8 hours without stopping. If a swallow could fly at its fastest speed all that time, how far could it fly without stopping?

2. At its fastest speed how far could a quail fly in 8 hours? How far could a dove fly in 8 hours?

3. A thrush to which a tag had been tied travelled north at the average rate of 130 miles a day during the whole month of April. How far north did it travel during that month?

4. Small birds often fly at a height of about 3000 ft. above the ground. This is how many feet less than a mile?

5. Larger birds can fly at a height of 8000 ft. This is how many feet more than a mile?

6. At its fastest speed, how many miles can each of the following birds fly in $\frac{1}{5}$ of an hour: duck, golden plover, swallow, wild goose?

Learning through Practice

1. Add:

92	1056	25	$2.81	4790	38584
75	7871	49347	1.52	61	46186
68	392	6408	5.67	7365	37151

79			83	$.13	
46	$ .47		694	22 .31	906
25	1.70	839	288	63 .40	88
63	3.82	5512	87	41 .06	112
9	.07	5046	782	75 .95	7
48	6.72	7189	872	84 .79	464

2. Subtract:

638681	1160	$6740.51	42815	$9.94
1685	618	3856.22	29018	9.07

10545	38714	269012	$13.12	690944
6069	19	268993	10.46	687106

3. Multiply:

988	$4.35	60	2137	98002	403	$67.00
80	59	64	38	7	90	82

500	10570	8749	603	26	$69.04	842
76	5	90	59	45	9	78

4. Divide:

5)5040	9)5340	2)$32.98	7)6076	4)34402
8)$69.95	3)2634	6)11525	9)24012	7)$423.81
7)1927	9)737	8)6160	2)118	6)3444

Garden Problems

1. Jane decided to put a border of pinks all the way around her flower garden. The garden is 20 ft. long and 13 ft. wide. For how many feet of border did she need seeds?

2. She found that 1 ten-cent package of seeds would plant 11 feet of border. How much did enough seeds for the whole border cost her?

3. Jane gave the clerk $1 to pay for the seeds. He gave her a quarter and 2 other coins in change. What should the other coins have been?

4. The night after Jane bought her seeds, the thermometer went down to 28°. Was the temperature above or below freezing at that time? How many degrees?

5. Jack made his garden into 18 rows. He planted 2 rows of carrots, 5 of peas, and 4 of beans. How many rows did he have left for other things?

6. Jack and Jane together bought 32 pansy plants. Each paid for $\frac{1}{2}$ of the plants. How many plants did each child buy?

7. When they set out the pansy plants, Jack gave Jane 8 of his plants. How many plants did each child have then?

8. One Saturday the children worked from 8 a.m. to 12 noon, and from 1 p.m. to 4 p.m. How many hours did they work that Saturday?

Problems for Careful Readers

1. If you know how much money a man spent and how much he had left after spending it, how can you find out how much he had at first?

2. If you know the year in which your father was born, how can you find his age now?

3. If you know the total cost of a certain number of books, how can you find the average cost?

4. If you know the cost of each of several books, how can you find the average cost?

5. If you know the length and width of a rectangular field, how can you find the distance around it?

6. If you know the length of one side of a square room, how can you find the distance around it?

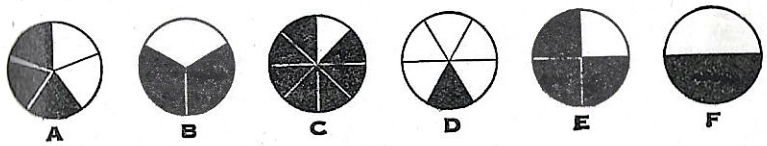
7. If you know how much your brother weighed last March, and how much he has gained since then, how can you find his weight now?

8. If you know what the temperature was this morning, and how many degrees it has dropped since then, how can you find out what the temperature is now?

9. If you have a certain number of cookies, and plan to share them equally with some other children and yourself, how can you find out how many cookies you should give each child?

Are You Ready for Next Year?

1. The answer in addition is the ——.
2. The minus sign tells us to ——.
3. The number we multiply by is the ——.
4. The number we divide by is the ——.
5. The number left over in division is the ——.
6. $\frac{1}{2}$, $\frac{3}{4}$, and $\frac{1}{5}$ are called ——.
7. What months have 31 days?
8. A.M. means ——. 9. P.M. means ——.
10. Draw a rectangle 2 in. long and $1\frac{1}{2}$ in. wide.
11. How many sides has a triangle?
12. Write *four cents* in figures in two ways.
13. Write 10 dollars and 1 cent in figures.
14. What 3 coins could you give in change for a dollar bill for a sale of 69¢?
15. Write in figures: Four thousand three hundred; sixty-five thousand ten.
16. Write the numbers for: X, VI, XII, XXIX, XXX, XXVII, IV, XXV, XVIII, XXI.
17. Write a fraction that tells how much of circles A, B, D, and E is white.



18. What fraction of circle C is black?
19. $\frac{1}{8}$ of 72 =
20. $\frac{1}{3}$ of a dozen =
21. $\frac{1}{4}$ of a yd. = ——in.
22. $9\overline{)4581}$

Write the answers:

1. 1 gal. = ____ qt., or ____ pt.
2. 1 mi. = ____ ft., or ____ yd.
3. 1 bu. = ____ pk., or ____ qt.
4. 1 yd. = ____ ft., or ____ in.
5. 3 T. 600 lb. = ____ lb.
6. 8 mi. 1320 ft. = ____ ft.
7. 90 pk. = ____ bu. ____ pk.
8. 252 da. = ____ wk. ____ da.
9. 365 min. = ____ hr. ____ min.
10. 8 da. 20 hr. = ____ hr.
11. $\frac{1}{2}$ T. = ____ lb.; $\frac{1}{4}$ T. = ____ lb.
12. 135 ft. = ____ yd. ____ ft.
13. 5 lb. 10 oz. = ____ oz.
14. $\frac{1}{8}$ mi. = ____ ft.; $\frac{1}{4}$ mi. = ____ yd.

Add:

	83
$6.66	92
3.92	73
1.58	69
	$7.72
371	.06
8255	3.16
58	4.41
1717	.87
75	98
680	14
94	58
182	96
683	57

Subtract:

595	7124	$4.33	7604	311	1277	5384
296	3569	3.36	595	64	279	4717

Multiply:

$40.60	81357	5279	$220.80	96143
3	8	6	7	9

99	502	$74.00	834	$.60	3277	650
74	50	89	43	26	80	37

Divide:

4)381	8)2048	7)4961	5)480	9)8226	6)5042
7)6405	2)$1.19	9)4936	3)22605	8)213	

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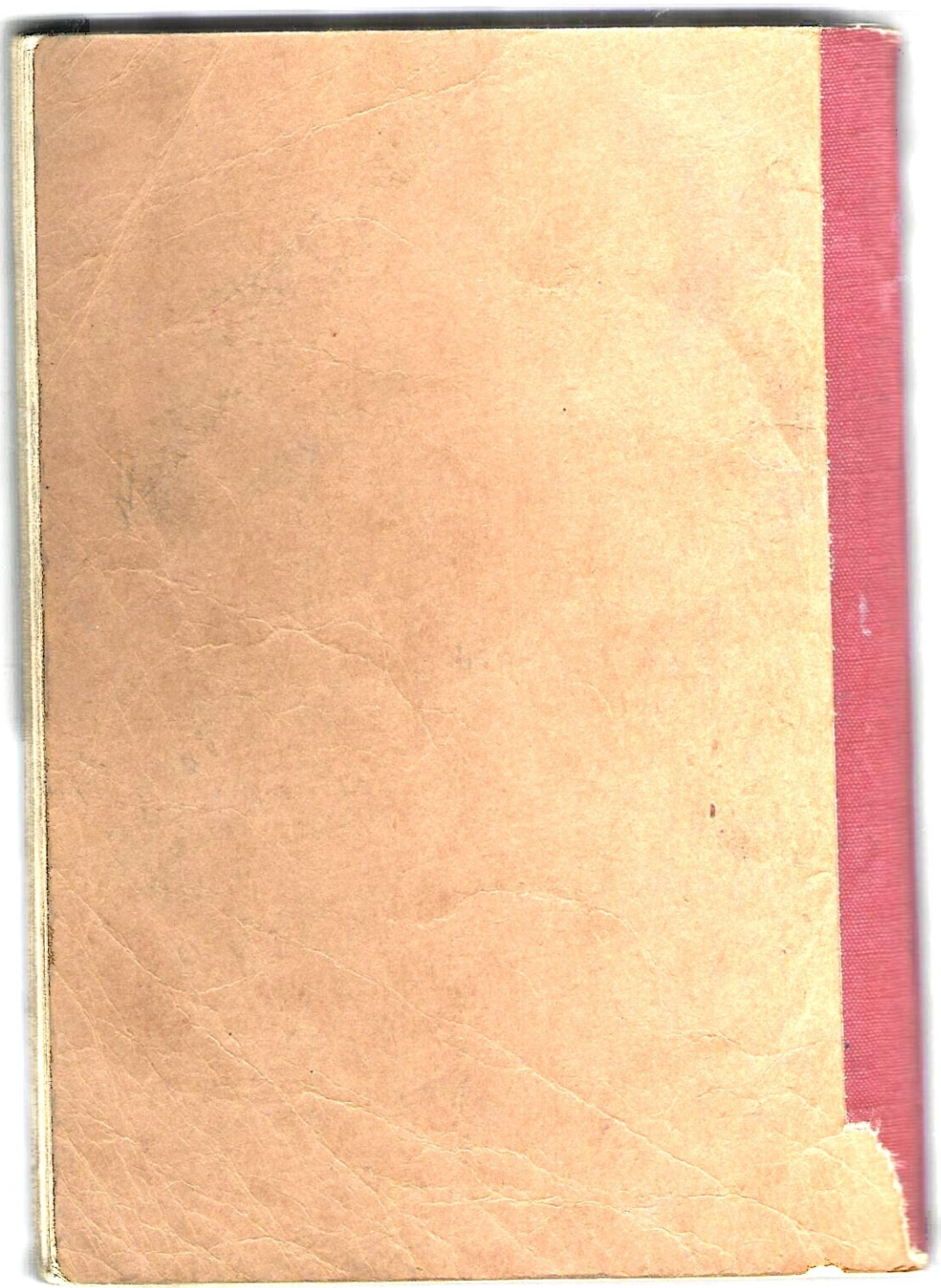
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